de maximis, inc.

135 Beaver Street
Fourth Floor
Waltham, MA 02452
(781) 642-8775
Fax (781) 642-1078

January 29, 2002

Karen Lumino
US EPA Region I
Mailcode HBT
1 Congress Street, Suite 1100
Boston, MA 02114-2023

RE: Remedial Action Construction Completion Report - Phase 1A
Pine Street Canal Superfund Site

Dear Ms. Lumino:

On behalf of the Performing Defendants, attached is the Phase 1A Remedial Action Construction Completion Report.

Please do not hesitate to call me at (781) 642-8775 should you have any question.

Sincerely,
de maximis, inc.

Don Maynard for

Thor Helgason
Project Coordinator

cc: Mike Smith - VTDEC
Norm Terreri - GMP
David Ledbetter - Hunton & Williams
Allyson Donahoe - National Grid USA
Rob Kirsch - Hale and Dorr
Jay Mullowney - Vermont Gas Systems
John Pennington - Vermont Railroad
Gary Kjelleren - General Dynamics
John Perkins - VTAOT
Steve Goodkind - Burlington Public Works Department

Reviewed By:
J:\PROJECTS\1-0870-1\weir construction - RA Phase 1A\012902 RACCR cover letter. wpd.wpd January 29, 2002

PHASE 1 REMEDIAL ACTION CONSTRUCTION COMPLETION REPORT

Pine Street Canal Superfund Site
Burlington, Vermont

Prepared for

Performing Defendants

Submitted to

U.S. Environmental Protection Agency
Region I
The State of Vermont

PREPARED BY:

The Johnson Company, Inc.
100 State Street, Suite 600
Montpelier, Vermont 05602

Revision 0
January 29, 2002

Disclaimer

This document is a DRAFT document prepared by the Performing Defendants under a government Consent Decree. This document has not undergone formal review by the EPA and VT DEC. The opinions, findings, and conclusions, expressed are those of the author and not those of the U.S. Environmental Protection Agency and VT DEC.

PHASE 1A REMEDIAL ACTION
CONSTRUCTION COMPLETION REPORT

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

1.0 INTRODUCTION AND SUMMARY OF WORK

1.1 INTRODUCTION

This Remedial Action Phase IA Construction Completion Report (RACCR) has been prepared in accordance with the Consent Decree and Statement of Work (SOW) entered February 11, 2000. This RACCR describes the activities performed to implement Phase 1A of the remedial action, and describes the results of that implementation.

The Remedial Action (RA) has been separated into three phases: Phase IA is the installation of a concrete weir at the Canal Outlet, and was implemented in autumn 2001. Phase IB is the capping of Areas 3 and 7, the reconstruction of the BED storm-water outfall and possibly the capping and creation of the waterway in the southern Canal. Phase II is the subaqueous capping of the canal and turning basin, and the capping of the 100 x 100 foot area south of Area 8. Phase 1B is scheduled to be implemented in the summer of 2002, and Phase II in the summer of 2003.

The RA was separated into the three phases due to seasonal limitations on construction. Phase IA construction of the weir is necessary to control the Canal water elevation during construction of the subaqueous caps and the cap in Area 3. Cap construction in Areas 3 and 7 requires a completion date of mid- to late summer and a start date in late spring or early summer due to requirements for re-vegetation. Construction of the sub-aqueous caps cannot be completed until Areas 3 and 7 are capped, due to the potential for re-contamination downstream during construction.

The purposes of the Phase IA remedial action include maintenance of current wetlands functions on the Site, protection of Phase II subaqueous caps from erosion, and to facilitate construction of the Phase IB and Phase II remedial actions.

The Phase IA Remedial Action was the construction of a cast-in-place concrete weir at the Canal Outlet. The weir is approximately 50 feet long, and is located beneath the Burlington bikepath bridge over the Canal Outlet. The broad-crested weir has five-foot long abutments on either end at an elevation of 98 feet above mean sea level based on the 1988 national geodetic vertical datum (feet NGVD). The main crest of the weir is at elevation 96.5 feet NGVD. There is a six foot wide sluice in the center of the weir with an elevation of 94.5 feet NGVD. This

sluice has a steel guide cast-in-place to allow the placement of synthetic stop logs. The stop logs will be placed in the guide to maintain the Canal water level at approximately 96 feet NGVD or at an elevation designed to optimize the wetlands functions on the Site.

1.2 SUMMARY OF WORK

This section provides a summary of the major elements of work performed to implement Phase IA in the general order the tasks were performed. The work was performed in accordance with the Phase 1A Remedial Design, dated September 4, 2001, with changes dated 21, 2001 and approved by EPA on October 2, 2001.

An equipment staging area was set up east of the Burlington Bikepath and approximately 300 feet north of the Bikepath Bridge over the Canal Outlet. Vans and trailers were used to store equipment and supplies. Re-fueling was performed in this area.

Initially an access ramp was constructed from the Burlington recreation path area down to the shore of Lake Champlain. The ramp was located approximately 200 feet north of the Canal Outlet at a location where erosion had left an eight-foot-high vertical soil bank above the Lake Champlain cobble-lined beach. Three trees, each about six inches in diameter, on the Lake shore were removed for the ramp, and one conifer of similar size was removed near the recreation path for equipment access to the ramp. These trees were replaced with saplings planted following completion of construction. The ramp had a 10-12 foot travel width and an approximate slope of 10 percent. Silt fence and hay bales were placed along the lake side toe of the ramp fill. The ramp was constructed with on-site material on top of filter fabric. All materials placed below an elevation of 98 feet NGVD were removed following construction.

Construction of the weir occurred in the work area located mostly beneath the Burlington Bikepath Bridge. The shoreline area between the bridge and the access ramp was used for equipment and materials storage. The work area was isolated from Lake Champlain and from the Canal using water filled cofferdams. Filter fabric was placed over a stone breakwater, and was then covered with local beach sand to provide a smooth bed for the cofferdams. Sharp rocks, debris and branches were removed by hand or with rakes. The cofferdam between the work area and Lake Champlain was 300 feet long. The cofferdam between the work area and the Canal was placed between the 28 foot wide concrete Railroad Bridge abutments east of the weir.

Once the cofferdams were place, a silt curtain and sorbent boom was placed across the outlet of the Turning Basin & Canal. A second silt curtain, and additional booms were added when the first set became fouled with silt. An eight-inch bypass pump with approximately 2000 gpm capacity was set up on the west side of the Turning Basin. The suction was suspended from a float such that a minimum of approximately three feet of water was present under it to prevent scouring of bottom sediments at the suction point and two feet above it to prevent cavitation. The pump discharge line was routed under the bridges and over the cofferdams and secured on the existing stone breakwater. The discharge was positioned on the breakwater in a fashion that dissipated the energy and prevented erosion. The discharge was monitored for turbidity each day that the bypass pump was used. The turbidity of the discharge never exceeded action levels of more than 20 national turbidity units (NTU) specified in the Remedial Action Work Plan (RAWP). The bypass pump was used maintain the canal stage at or about 94 to 95.4 ft NGVD.

Weir construction involved excavation for the weir foundation, forming and placing concrete, and backfilling around the weir. Groundwater seepage into the work zone was pumped out of the excavation area from a sump in the northwest corner. The excavation area was allowed to fill with groundwater each night, and was pumped out in about 45 minutes each morning using two or three 3-inch gasoline operated trash pumps. These dewatering pumps discharged to the canal outlet between the cofferdam and the silt curtains. The discharge pipe was supported such that the discharge did not scour the bottom sediments.

Available information indicates that the design base elevation of the Bikepath Bridge abutment is approximately 99.5 ft NGVD. The excavation edge was maintained at least five feet from the southern abutment. The excavation ends were near vertical, and wooden shoring and gravel bedding material was used to stabilize the slope.

None of the Phase 1A Remedial Action resulted in a release of contaminants to the air or surface water that put the environment, the workers, or the public at risk. The air around intrusive activities was monitored using a photoionization detector (PID). Sustained PID levels in the breathing zone above 1 part per million by volume (ppmV) were not observed. Some soils were encountered which had bag-headspace PID readings up to 10 ppmV. These soils (approximately 30-35 cubic yards with PID headspace readings elevated above 3 ppmV) were separated on a bucket-by-bucket basis during excavation, and temporarily stored in a polyencapsulated stockpile in the work area. The contaminated soils appeared to be associated

with the material filling the southern cribbing structure and were not present in the area between the railroad bridge abutments. After examination of the soils by the EPA, they were moved to a polyencapsulated stockpile at the south edge of Area 3 (for capping in 2002). Minor sheens observed in the excavation water were collected with sorbent pads. No visual evidence of non-aqueous phase liquids were present in the excavation soil. Stratigraphic and photographic visual data were collected during excavation.

Elevations of the abutments of existing structures, specifically the bike path bridge and the railroad bridge, were checked daily. No significant changes in the elevations were observed.

During excavation, a concrete step and wooden cribbing filled with stones were unexpectedly uncovered west of the railroad bridge abutments. The geometry, construction, and materials of the cribbing were documented in the field notes, by photographs, and by inspection by archeologists. The portion of the cribbing which would interfere with construction was removed. The stones were re-used as rip-rap, and the wooden logs and beams were left on-site above the Lake Champlain beach at an elevation above 98 feet NGVD. A design change (Design Change No. 4) which moved the weir location approximately six feet westward was developed due to the presence of these structures. A copy of the Design Change is in Appendix 4.

Excavated materials (with the exception of the soils with elevated PID headspace readings) were screened using a mechanical shaker with a four-inch mesh screen. Debris was then hand picked from the materials. Wood was placed above the Lake Champlain beach at the base-of-slope. Metal debris with potential archeological significance was photographed. Metal debris was recycled. Plastic and other non-natural debris was disposed of off-site at a licensed landfill transfer station. Stone and rock retained by the four-inch screen was used for rip-rap (no off-site rip-rap was necessary for the construction). Soils passing through the screen were used for backfill around the weir stem, and a portion (approximately 35-40 cubic yards) were transported to Area 3 for use as sub-cap material in 2002.

Following excavation and dewatering, filter fabric was placed in the bottom of the excavation, and manufactured crushed stone gravel bedding was placed and compacted. The weir footing was then formed and cast on top of the bedding. Concrete was pumped into the forms from trucks which accessed the work area via the ramp. The concrete was moist-cured by allowing the excavation to fill with groundwater.

The weir stem was then cast-in-place in two separate events. The main stem up to an elevation of 96.5 ft NGVD was cast first, and then the end abutments were cast to an elevation of 98 ft NGVD. This placement of the stem concrete in two events was developed in Design Change #2 during the construction process (see Appendix 4).

Following placement of the concrete, additional gravel bedding material was placed and compacted around the weir footing and stem. Screened soils from the on-site excavated materials were also placed and compacted around the ends and abutments of the weir.

Filter fabric was placed on the west (lake) side of the weir to a distance of 25 feet from the base of the stem. Additional fabric was placed around the end abutments over the compacted soils. Rip-rap derived from on-site materials (following screening and hand picking of debris) was placed over the fabric to prevent erosion.

Following completion of the weir, the water-filled cofferdams and any associated bedding were removed. The ramp was also removed, and its materials were placed at the base of the eroding 8-foot high bank above the beach (above an elevation of 98 feet NGVD). Disturbed soils above 98 feet NGVD were seeded, fertilized, and mulched (generally with a bio-degradable straw mat). Saplings were planted at the top-of-bank to replace the cut trees. There was no damage to the bikepath. A Vermont licensed surveyor conducted a survey of the weir as-built.

2.0 ANALYTICAL DATA AND FIELD NOTES

Field notes for the project were kept in a dedicated bound notebook titled Pine Street Canal Site Remedial Action Phase IA - Outlet Weir Field Book #1 (PSCS RA FB#1). Field notes include construction survey data, measurements of Canal and Lake levels, turbidity measurements, cofferdam and pump status, air quality and soil screening, railroad and bikepath bridge abutment surveys, weather, construction activities, notes of communications, estimates of

material volumes, sketches and inspection notes, and other data as appropriate. Copies of these field notes are included in Appendix 1 - Field Notes.

A daily inspection checklist form was completed each day of active construction. The checklists include information relating to weather, access control features, environmental controls, cofferdams, pumping systems, bridge foundation elevation surveys, and summaries of work performed. Separate forms (earthwork inspection check-list and concrete inspection check-list) were completed when applicable. A spreadsheet was used to calculated and report critical daily elevations (Lake and Canal stages and bridge foundations). Copies of these completed forms are included in Appendix 3 - Construction Check-lists.

Three design changes were prepared, submitted, and approved during the construction process. These changes are included in Appendix 4 - Design Change Forms.

Vermont Testing of Waterbury, Vermont performed grain size distribution testing, modified proctor density testing, and in-situ field density testing of the crushed stone manufactured gravel sub-base material. Vermont Testing also performed tests of slump, temperature and air entrainment during concrete placement, and tested concrete cylinders following placement for uniaxial compressive strength. All Vermont Testing test results are included in Appendix 5 - Sub-base and Concrete Test Results.

Following completion of construction, a Vermont Licensed Surveyor performed an as-built survey of the weir elevation and location with a vertical accuracy of +- 0.01 ft relative to the 1988 national geodetic vertical datum (NGVD) as referenced by the benchmark located on the southeast railway bridge abutment at the canal outlet. His notes and Record As-built Drawings are included in Appendix 6 - As-built Drawings.

3.0 QUALITY CONTROL/QUALITY ASSURANCE

Quality control and quality assurance for the Phase IA Remedial Action was maintained through a series of proscribed measurements and tests during the construction process as required in the Construction Quality Assurance Project Plan (QAPP) included in the Remedial Action Project Operations Plan.

On-site and laboratory testing of concrete and soils was performed by Vermont Testing. Table RACCR-IA-1 provides a summary of the tests and inspections performed during construction. The test results are presented in Appendices 3 through 5. No significant deficiencies in the test results were observed.

Table RACCR-IA -1
Tests and Inspections during Weir Construction

Construction Task	Test or Inspection Method	Description	Timing and Frequency	Results
Access control and support features	Visual	Inspect fences, warning signs, temporary power lines, equipment and similar features to ensure they are intact and in compliance with the Remedial Action Workplan.	At installation, and daily during active construction	OK
Public Health and Safety	Visual and Autolevel	Inspect heavy equipment crossing area of bikepath. Inspect warning signs placed beyond edges of construction. Measure the relative elevation of all four corners of the railroad bridge abutments to the nearest 0.01 feet to ensure that differential settlement is not occurring.	Daily during active construction	No damage to asphalt. Warning signs used. No change in railroad abutment elevation.
Silt Curtains/Silt Fences/ and hay bales	Visual	Inspect silt curtains to ensure they are appropriately placed and the base is appropriately bedded and/or weighted. Inspect silt fence to ensure they are functioning and preventing release of fill below of 98 feet NGVD.	Immediately after installation, daily during active construction	OK. Repairs and additions placed as necessary.
Sorbent Booms	Visual	Inspect sorbent boom placement to ensure they are appropriately placed, have sufficient slack, and still have sorbative capacity.	Immediately after installation, daily during active construction	OK
Waterdams (or cofferdams)	Visual	Inspect area prior to placement for obstructions, installation to ensure manufacturer's installation requirements are being followed, and inspect for wear and evidence of failure in accordance with the manufacturer's recommendations.	Before and immediately after installation, daily during active construction	OK
By-pass and dewatering pumps	Visual and Field Turbidity	Inspect supply lines, discharge lines, intakes and outfalls for wear, clogging and position. Test turbidity at Lake Champlain bypass pump outfalls and at "background" location. Visually check fuel and lubricant levels and replace as needed. Confirm that pumps are maintained in accordance with the manufacturer's requirements.	Immediately after installation and daily during active construction.	OK. Pump lines repaired as necessary. Turbidity well below action levels.
Excavation	Visual, survey, and PID measurements	Check grade stakes for accurate location and elevation prior to commencing excavation. Inspect excavated soils for presence of non-aqueous phase liquids and test for the presence of volatile organic vapors using the photoionization detector jar headspace method. Check final subgrade dimensions and elevation. Evaluate subgrade soils against assumed bearing strength for design.	Prior to and during excavation (minimum of every 30 cubic yards of material excavated).	OK. Average of one PID headspace test per four cubic yards excavated. Soils with PID>3ppmV polyencapsulated. Subgrade elevation OK. Subgrade soils OK.

Table RACCR-IA -1
Tests and Inspections during Weir Construction

Construction Task	Test or Inspection Method	Description	Timing and Frequency	Results
Placement of Gravel Sub-base	ASTM D422, ASTM D1556, visual, and survey	Perform grain size distribution test (ASTM D422) and visual inspection of delivered gravel for detritus, organic material, fines, and other deviations from the specifications. Perform compaction test for 90% of optimum density per ASTM D1557. Check final grade elevation, thickness and dimensions.	ASTM D422 test every 35 cubic yards delivered and visual inspection of all delivered gravel. ASTM D1556 - 2 tests per lift.	Visual inspection OK. Max. Dry Dens. 141.6 pcf Opt. Moist. 9.5% Four grain size tests. In-situ compaction >89% Final grade OK.
Forming of Weir base slab and stem. Placement of reinforcement steel.	Visual, measurement and Survey	Check forms for accurate locations and elevation, inspect forms and reinforcement for compliance with specifications. Verify 4" minimum concrete cover (-1/2" tolerance). Verify steel placement dimensions (± ½" tolerance). Verify steel overlap at splices (± 1" tolerance)	Prior to and during form and reinforcement construction and immediately prior to concrete placement.	OK. Base = 51' long. See Concrete Form-Work Inspection Checklists for 10/15, 10/18 and 10/22.
Concrete Placement of weir base slab and stem.	On-site tests for air entrainment and slump; prepare and test cylinders (ASTM C31: making and coring test cylinders; and ASTM C39: testing concrete cylinders); and survey	Check that the concrete bulk plant is using the specified constituents and proportions including air entrainment chemicals, plasticizers, cement, water, sand, and aggregate size. Upon delivery, check time of initial mixing of concrete, to ensure placement within specified time limits. Also check that the concrete truck has a functioning water tank volume indicator. Record truck number and delivery time. Test concrete temperature, slump, and air entrainment of each truck load delivered. Record quantity of water added to mix on-site (if any). Record placement time and location (which portion of weir). Survey as-built location and elevations after forms are removed.	On-site air entertainment and slump tests of each concrete delivery truck. Preparation of test cylinders for every 35 cubic yards placed, test cylinder breaks at 3, 7, 14, and 28 days.	OK. See Daily Inspection Checklists and VT. Testing Reports for 10/15, 10/18 and 10/22. Slump = 2.5-4.0 inches Air = 4.2-5.6% 28 day cylinder strength = 4080-4520 psi. Final elevations OK.
Native-backfill and rip-rap placement	Visual	Inspect for detritus, organic material, fines, and other deviations from the specifications for backfill, and dimensions and other deviations from specifications for rip-rap. Check final grade elevation, thickness and dimensions.	During construction.	OK
Clean-up of Construction Area	Visual	Inspect for removal of silt, mud, trash, and construction debris. Inspect removal of access ramp from bike path into Construction Area and restoration of the slope.	During and after clean-up	OK
Restoration	Visual	Inspect all areas disturbed and restored.	During and after restoration	OK

4.0 FINAL CONSTRUCTION INSPECTION

The final construction inspection was performed on November 1, 2001. Attending the inspection were: EPA Site Manager Karen Lumino; Vermont HMMD Site Manager Michael Smith; Project Coordinator Thor Helgason; and Donald Maynard of The Johnson Company, Inc. No deficiencies were noted. An EPA letter summary of the inspection (included in Appendix 7) indicates that the EPA had no comments regarding the final construction completion inspection.

5.0 CERTIFICATIONS

The Phase IA Remedial Action performed in autumn 2001 was consistent with the Pine Street Canal Superfund Site, Burlington, Vermont Record of Decision and Consent Decree. The Remedial Action was performed in accordance with the approved Design Plans and Specifications, and Project Operations Plan, as adapted by Design Changes (included as Appendix 4) and field modifications shown on the attached Record As-built Drawings included in Appendix 6.

Phase IA of the remedial Action (weir construction) did not, in itself, cause loss of wetlands. Use of the weir to maintain wetland-optimal water levels at the Site will reduce any potential wetlands loss from other portions of the project.

6.0 VOLUMETRIC ESTIMATES

Maps and profiles showing the extent of excavation and construction for the weir are included as Record As-built Drawings in Appendix 6. Photographs of all stages of the weir construction are included in chronological order in Appendix 7 - Photographs. A table of soil and material volumes is provided below in Table RACCR-IA -2.

Table RACCR-IA -2
Material Volumes and Areas of Displacement and Disturbance

Area	Volume (cubic yards)	Soil type & Source	Final Disposition
Access Ramp	5-10	Local soils	Used for final grading below 98 feet NGVD
Access Ramp	35-40	Local soils from weir excavation	Placed above 98 feet NGVD at base of eroding slope
Access Ramp	15-20	Local soils mechanically screened on-site	Used for backfill and riprap below 98 feet NGVD
Base below cofferdams	2-3	Local Sand from beach	Washed and/or replaced to original locations
Soils from weir excavation	30-35	Local soils with PID headspace above 3 ppmV	Polyencapsulated in Area 3
Soils from weir excavation	35-40	Local soils mechanically screened on-site	Moved to Area 3
Soils from weir excavation	50-55	Local soils mechanically screened on-site	Used for Rip-rap above 98 feet NGVD
Soils from weir excavation	70-90	Local soils mechanically screened on-site	Used for Rip-rap below 98 feet NGVD
Soils from weir excavation	70-90	Local soils mechanically screened on-site	Used for backfill around weir stem below 98 feet NGVD
Sub-base gravel	90-100	Crushed stone from S.T. Griswold quarry	Below and around base, around stem, and in sump
Concrete	66.5	S.T. Griswold	Weir base, stem & abutments
Topsoil	14	Purchased off-site	Staging area

7.0 SCHEDULE AND MAINTENANCE

Maintenance of the weir is described in the Remedial Design Workplan. It includes an annual inspection of the weir each spring. Visual observations of the integrity of the weir concrete, sediment accumulation behind the weir, effects of beaver and the rip rap integrity will be performed during these inspections. Additionally, an auto-level or similar device will be used to survey the weir elevation at three locations with an accuracy of at least ±0.01 feet relative to the 1988 NGVD. A copy of the annual weir inspection check sheet is provided on the next page.

Impacts to existing structures, specifically the bike path bridge and the railroad bridge, will be evaluated by relative elevation measurements of the abutments (for the railroad bridge). If significant changes in the bridges are observed which could impact their stability, all traffic across the bridges will be immediately suspended, and the following people notified:

Vermont Railway Railroad Bridge contacts:

Charlie Lameaux, Phone 343-9207, 742-1511
Gene St. Louis, 862-2503
John Perkins, Vermont Agency of Transportation, 828-2169

Bikepath Bridge contacts:

Burlington Department of Public Works: Stephen Goodkind, 863-9094
Burlington Parks and Recreation Department: Bob Whalen, 865-7248

PINE STREET CANAL SUPERFUND SITE
OUTLET WEIR INSPECTION FORM

Date:_____ Time:_____ Weather:_____

Inspector (Print Name):_____ Signature:_____

I. Mouth of Weir

Accumulation of debris or beaver activity:_____

Condition of stoplogs:_____

Water surface differential:_____

II. Ends of Weir

Evidence of scour along the edges of the Canal near the ends of the weir:

_____

III. Base of Weir

Rip-rap in place:_____

Scouring along the base:_____

IV. Condition of Concrete

Exposure of Rebar:_____

Cracks, spalls, scaling:_____

5) Overall Alignment

Settlement:

Sluice benchmark elevation: (96.48)_____

North weir abutment: (97.98)_____

South weir abutment: (97.97)_____

6) Railroad Bridge Abutments Elevation Check

Northeast (100.12)_____

Northwest (100.12)_____

Southeast (103.64 @RV124)_____

Southwest (100.18)_____

VII. Notes:

_____

_____

_____

APPENDIX 1

FIELD NOTES

"Rite in the Rain®"

ALL-WEATHER WRITING PAPER

REWARD
FOR RETURN

Return to:

Name THE JOHNSON CO. INC.
100 State STREET
Address SUITE 600
MONTPELIER, VT 05602
Phone 802-229-4600

"Rite in the Rain" - a unique all-weather writing surface created to shed water and to enhance the written image. Makes it possible to write sharp, legible field data in any kind of weather.

Available in a variety of standard and custom printed case-bound field books, loose leaf, spiral and stapled notebooks, multi-copy sets and copier papers.

a product of

J. L. DARLING CORPORATION
TACOMA, WA 98424-1017 USA
www.riteintherain.com

CONTENTS

PAGE	REFERENCE	DATE
	PINE STREET CANAL SITE, BURLINGTON, VERMONT (PSCS)	
	REMEDIAL ACTION PHASE IA - OUTLET WEIR (RA WEIR)	
	FIELD BOOK #1	
	start 9-20-01	

Reference Page Index

2 Location PSCS RA WEIR FBI Date 9-20-01

Project / Client

on-site Don Maynard, PE # 7020 (DMM)
The Johnson Co., Inc.

Charlie Lamieux - VT Railway
David Wolfson, President, VTRR

Topics:
Night access through gate - security
commuter train + 10:30 - 2:30
start Date Oct. 27, Thurs - one month
Parking - 8 spaces

DMM

Location PS Date 3

Project / Client.

DMM

4 Location PSCS RA WEIR FB#1 Date 9-2001

Project / Client important Numbers

OK 9/25/01

DIG safe # T0101619-38

EPA ID # VTD980523062

FIRE - 864-5311 - Pat Murphy 9-26

POLICE - 658-2704 - Beck officer

Gravel Jim Meunier ext 259

GRISWOLD - Todd Nelsen 802-658-0201

VT - Testing - Jagues 244-6131

BILL MacFarlane - cell phone 207 415-2111

TITOR HELGASON (781) 642-8775

~~John Hunt~~ cell - (781) 248-8727

VT RAILWAY

Chris Shaner (TINY) 742-1521

Gene St. Louis 862-2503

Charlie Lameaux 343-9207 or 742-1511

Dan stein, Bridge eng. -

Ken or AL Pigeon - ECI 863-6389
or Sarah

John Hunt - de maximus
860-651-1196
cell 617-957-5961

Don - Home 728-4325

Joel - Home 472 5028

DM

Location PSCS RA WEIR FB#1 Date 9-21-01 5

Project / Client

Joel Behrsing / Don Maynard

ST Griswold
S. Brownell Rd. Quarry

3/4" Plant mix

stockpile ~ 50'x20'x20'
2,000 cF -
TWO composites collected
From 3-4 locations
each.

IRON plake

Canal stage to be kept @
94.0 - 95.4 FNGVD

Maximum canal safe 98.6

Maximum Lake safe 97.5

DM

Location PSCS RA WEIR FB#1 Date 9-26-01

Project / Client

Onsite Don Maynard
BILL MacFarlane
Dan Stein
Charlie Lamieux

TO charlie + Gene st Louis

min. 24 hr notice before working within 15 FT OF ℄ Track.

WILL require
$ 2-6 Million RR Liability Insurance

Notify Gene st Louis @ start + Finish each day.

During excavation - plates available TO shore excavation in the event of caving below footing.

1st Call Gene st Louis.

FILL any voids below Foundation w/ concrete...

DWM

Location Date 9-26-01

Project / Client

Daily work reports copied to charlie.

Fence Both sides of track

John Pennington - @ offsite.

10-1-01 @ 125555-641
clear cloudy 5-10 mph 55°F - 65°F
DMaynard, J. Behrsing
onsite 11:30

install Lakeside staff guage #3 - SG3
~ 100 YDS From shore
5' N of southern Breakwater
initial reading 0.56 ft
0-4' set on bottom @ 11:40

DWM

8 Location PSCS RA FB #1 Date 10-1-01

Project / Client

onsite D Maynard, J. Behrsing

BM RIVET RV12 4

Elev = 103.64 NGVD 1988

Inst. Elev.	Rod	Elev.	BM	
108.80	5.16	103.64		BM
~~100.12~~ am	8.68	100.12		NE ABUT RR
				~~NG. SIDE NW ABUT RR~~
~~105.15~~ Omn	3.65	105.15		NW END
~~100.12~~ pm	8.68	100.12		NW ABUT RR
	8.62	100.18		SW ABUT RR
	3.38	105.42		SE ABUT BIKE
	11.38 - 11.39	97.42		~~SE ABUT RR~~
	5.17			BM
			Elev.	
100.89	~~SW~~ 0.71		100.18	SW RR ABUT
	3.82		97.07	

pm

Location Date 9

Project / Client

SE ABUT

Chip 0.8' west of steel 0.25' N. edge of concrete

~~0.4' N of S. edge 0.3' E of W. edge~~

CONCRETE BASE FOR DRAW WORKS on concrete S. END OF RIVETS

0.4' N of S. Edge 1.0' E of IRON

0.2' E of W. edge 0.1' S of N. edge

. High point on concrete - upper NE CNR

TOP PIPE @ T.B. staff = 11.42 = SG4 (added 5' section afterwards)

SG4 zero = 86.00

SG3 Base = 93.07

TOP OF ROD @ LARGE STAFF - 4.0'

SG3

pm

14:45 SG#2 @ 11.75" B 4.0
same @ ~3:05
• 15:35 - 12" B Top

SG2 1'5" Top of pipe @ 4.5' Top of Tape

offsite 16:45

10-2-01
D Maynard onsite 9:00
Fleet on site & tomorrow
HS meeting
photograph existing conditions for record

Collect turbidity
T=2.3 NTU @ BG @ 9:50
Lake staff gauge @ 9:55

9:55 Lake stage 0.53 @ SG3
Lake = 93.60 T= 6.7 NTU @ SG3

DM

SG4 - Canal 9.38 @ 10:30
Canal = 86 + 9.38 = 95.38

Bypass pump 6"
John Deer
Set remainder of fencing

CRITICAL WATER LEVELS
CANAL - PUMP LOW 94.0' - 8.0'
CANAL - PUMP HIGH 95.4' - 9.4'
CANAL Aguadam - 98.6' = 12.6'
Lake Aguadam - 97.5' = 4.4'

13:00 - 16:00 remove portions of Beaver Dam
16:00 Turbidity Samples
BGT = 1.1 NTU
Lake SG3 = 0.57' - T = 4.3 NTU
Canal SG4 = 9.33

DM

12 Location PSCS RA FB #1 Date VARIOUS

Project / Client RR BRIDGE ABUT SURVEY

BM. SE ABUT PIN Elev = 103.64 Ft NGVD 1988

INST. ELEV.	ROD	Elev.	LOCAT.	DATE	INITIALS + NOTES
108.85	5.21	103.64	SE CNR BM	10-3-01	DM 8:25
	8.72	100.13	NE CNR		
	3.69	105.16	NW END		
	8.73	100.12	NW CNR		
	8.66	100.19	SW CNR		
	3.43	105.42	BIKE SE		
	5.21		BM-SE		
108.60	4.96	103.64	SE CNR BM	10/4/01	J-B 13:35
	8.48	100.12	NE CNR		
	3.44	105.16	NW END		
	8.48	100.12	NW CNR		
	8.42	100.18	SW CNR		
	3.18	105.42	BIKE SE		
	4.96		BM-SE		
108.52	4.88	103.64	SE CNR BM	10-5-01	DMM 12:30
	8.41		NE CNR		
	3.36		NW END		
	8.40		NW CNR		
	8.39		SW CNR		
	3.10		BIKE SE		
	4.89		BM-SE		

Location PSCS RA FB #1 Date VARIOUS 13

Project / Client

INST. ELEV.	ROD	Elev.	LOCAT.	Date	Initials + NOTES
108.66	5.02	103.64	SE-BM	10-8-01	JM 10:30
	8.55	100.11	NE CNR		
	3.51	105.15	NW END		
	8.55	100.11	NW CNR		
	8.49	100.17	SW CNR		
	3.24	105.42	BIKE SE		
	5.02		BM-SE		
108.55	4.91	103.64	SE-BM	10-9-01	9:20
	8.43	100.12	NE CNR		DM
	3.40	105.15	NW END		
8.43 DM	8.38	100.12	NW CNR		
	8.38	100.17	SW CNR		
	3.14	105.41	BIKE SE		
	4.91		BM-SE		
108.62	4.98	103.64	SE-BM	10-10-01	DM
	8.50	100.12	NE-CNR		7:30
	3.46	105.16	NW END		
	8.50	100.12	NW CNR		
	8.45	100.17	SW CNR		
	3.20	105.42	BIKE SE		
	4.98		BM-SE		

14 Location PSCS RR FB #1 Date 10-2-01
10-3-01

Project / Client

D. Maynard offsite 16:45

D. Maynard onsite 7:45 (+Fleet)
55°F 0-5MPH, clear waves-0-1FT.

8:20 Canal SG4 9.14=95.14

9:20 Lake SG3 0.50 = 93.57

9:20 Turbid @ SG3 - 3.4 Ntu
" @ BG - 1.0 ntu.

Survey RR@ 8:25

remove Beaver Dam 8:25-9:15

Place bypass pump pipes

13:30 Canal SG4 @ 9.00(+86.0)= 95.0 NGVD

place ramp on fabric
set bales + silt fence
clear bldrs + cobbles
from N. End Lake Aquadam
remove concrete blocks
from below bike bridge
DM

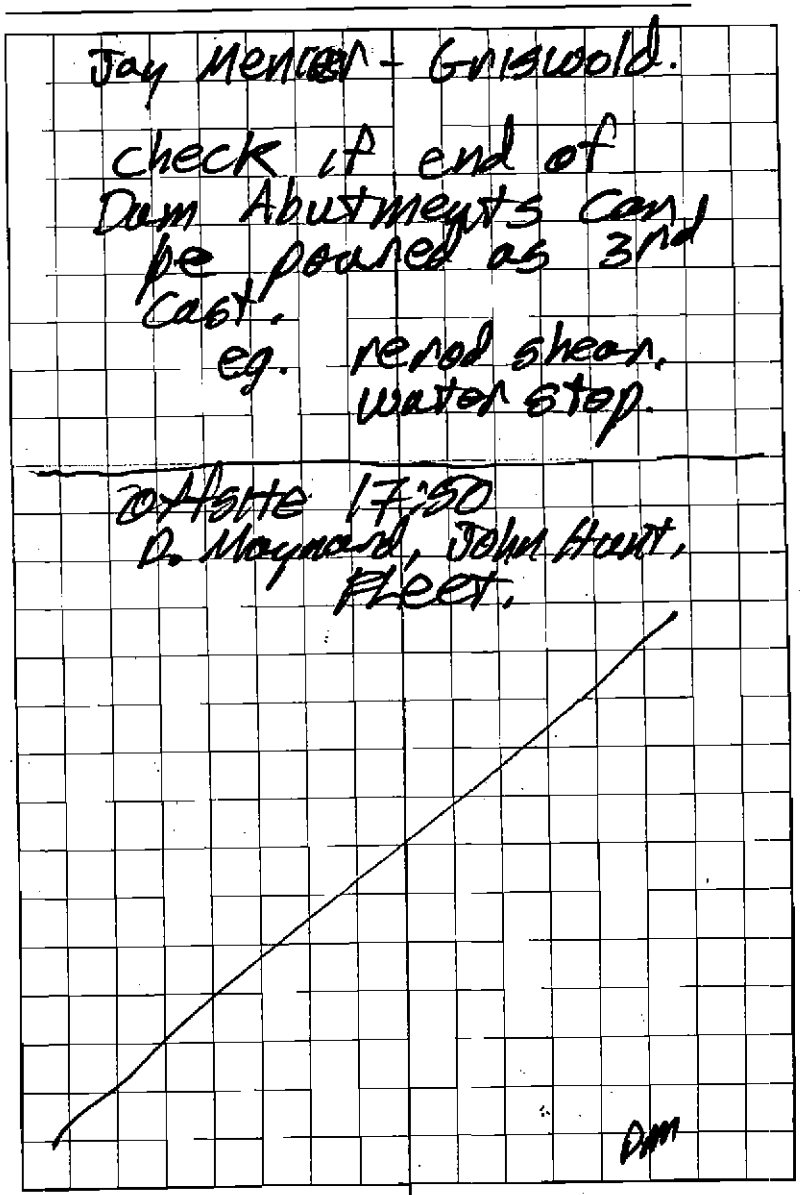
Location Date 10-3-01 15

Project / Client

Jay Mercer + Griswold.

check if end of
Dam Abutments can
be poured as 3rd
cast.
eg. rerod shear.
water stop.

@ Hsite 17:50
D. Maynard, John Hunt,
Fleet.



S. Behrsing on-site ~ 7:10 AM

Clear ~ 60°F S. wind waves < 1.0'

Bill/Kurt - Fleet

@ 7:15 Lake S.G. @ 0.48 = 93.55
@ 7:20 Canal S.G. @ 8.90 94.90

7:30 check-in w/Gene St. Louis RR
leave Inspect. form for
C. Lemieux in his mail box.

silt fence/hay bales @ ramp
in-place and functioning.

7:40 Loader running to move
discharge hose; A-dams. to top ramp

RR cars on Bridge; wait on survey.

8:20 Bike Path ok swept off dirt @ Xing.

wind has picked-up

laying bypass pump discharge hose
onto breakwater.

9:45 removing driftwood from
lake side A-dam footprint.

place lake sand over and
@ breakwater by Bike Path Bridge
F. Fabric on-top.

10:35 collect H_2O @ Lake S.G.
and bkgrd. location.

standard @ 0.03 vs 0.02

10:45 bkgrd = 1.6 NTU
Lake S.G = 1.1 " "

11:30 Broke Beaver Dam some more.
Remove large piece of driftwood
from T.B.

13:35 Survey Abutments w/J. HUNT

14:25 set up to fill 1st. A-dam section.

15:00 off-site

18 Location PBRA FB#1 Date 10-5-01

Project / Client

DMaynard onsite 7:45
55°F 10-20 mph, 0-0.5' waves
overcast
Fleet onsite
John Hunt

complete Filling
of Northern
section Lake Aquadam
to 5.0 Feet
Place + Fill center
section Lake
AQUADM

10:35 563 Lake = 4.56'

Beaver rebuilt
Dam.

Location Date 19

Project / Client

E
Pinhole - 3' up on side
9:30 Small leak in ~2' from
North Dam south
end

10:30 leak expanded
TO ~ >100 GPM

10:45 Two more pinholes
Found along seam
East side - many more
found.

many additional holes
Found on west side as
well

11:05 collect
Turbidity
563 - 9.8 NTU
B6 - 1.3 NTU

11:15 set SILT Fence ~30' upstream of SG-3. (East

Canal SG4 = 8.43 @ 11:35

set silt fence east of heavy equipment access bridge.

set bedding + Fabric Place Below RR Bridge.
Aguadam Place 8" SBR PIPE below R. Dam

Sta #2 SW CNR RR Abut. 0.98
HI Elev. = 101.17'
shoot N END Aguadam
reads 3.7 98.5 FT Elev. NGVD

Low spot @ S Jetty crossing = 97.5

Kelsey Greens.

clear Rubble below Downsite

Cal PID to 100 ppm IB reads 100.9 ppb.
BG AIR 0.0

remove Beaver Dam again (rebuilt last night)

Breathing space 0.0-0.1 ppm

6 grab - 4 samples - 0.5-0.8 ppm VP.

upper 2' of material is 1-2' cobbles - angulary and 0.25-0.5' cobbles some Sand (F,M+C) some areas have Logs, wood, Block rotten wood Dry to Saturated

22 Location PSCS RA #1 Date 10-5-01

Project / Client D Maynard

14:45 put haybales with SILT fence @ Lake

15:05 collect turbidity sample upstream of Lake SILT fence (N 50' E of SG3)

Turb = 11.02 NTU

15:05 SG3 Lake = 0.45'

16:10 SG4 Canal = 8.38'

Set Canal SILT fence + Sorbent Booms

photos of Site as left

off site 17:30

DM

Location PSCS RA BK# Date 10-8-01 23

Project / Client D Maynard

onsite 9:00 Fleet onsite partly cloudy + 10-20 mph wind 1-2' waves 40-45°F

Clear boulders From South end of Lakeside Aguadam - (near Bikepath) (Dam placed on FILTer Fabric over stone Jetty)

10:00 AM Lake SG3 = 0.40-0.45

SG3 Turbid = 1.1 NTU

BG Turbid = 1.8 NTU

NOT pumping by pass yet

Turn center Dam + place @ S. end-Lake FILL South Lake Dam.

Place + FILL Center Dam

DM

 Location PSCS RA BK #1 Date 10-8-01

Project / Client

D. Maynard

canal SGA - 8.36 @ 13:40
86+8.36 ≈ 94.36 FT NGVD
Beaver filled pipe inlet below aquadam with milfoil

℄ @ canal Aquadam
seepage - None through Dam
height of canal Aquadam - 3' 10" on downstream side (4' 5" on upstream side) (3' Below ℄-Beams)
Alignment - OK
1/2" water through pipe

Bypass pump inlet - Water Depth
inlet Depth F.B. Water surface - 2' 10"
inlet Height above Bottom 3.0'
~~pm inlet~~ Bottom elevation ≈ 89.5 Ft @ inlet

Lake side Aquadam height @ end of Day = South Dam ~3' MID Dam ~2.5"
Allignment = Good
17:15
DM

Location PSCS RABK#1 Date 10/8/01

Project / Client 10/9/01

D Maynard

6" By pass pump working well
Discharge clear onto stone jetty
Joint leaking under Bike Bridge - will add gasket tomorrow

offsite 17:45

10-9-01
onsite 7:00
38°-60°F 0-5 mph 0-0.5' wave
clear

Calibrate OVM
reads 100.5 on 100 ppm IB
BG AIR 0.0 ppmv

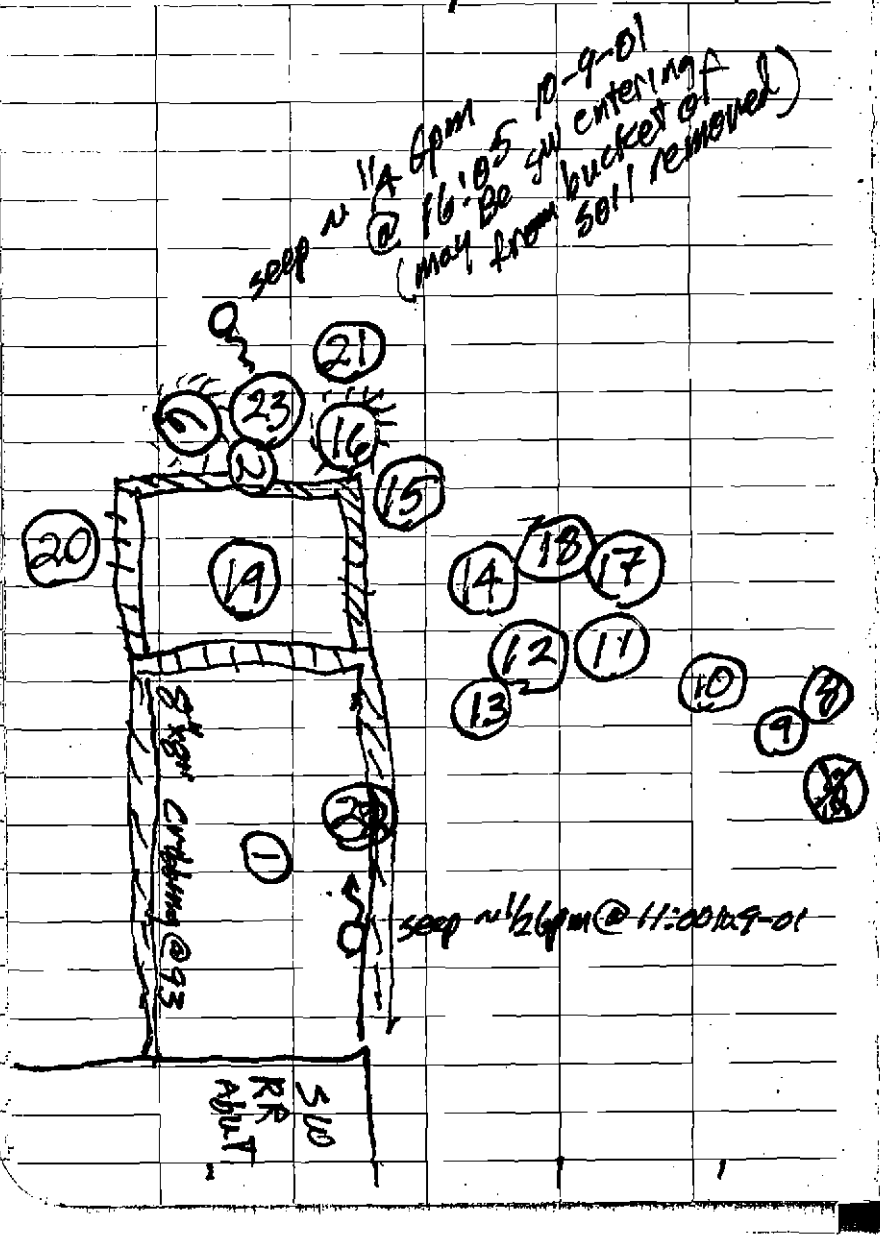
start up bypass pump ~7:15

Canal SGA = 8.30 @ 7:45

Location PSS RA BK #1 Date 10-9-01 +10-10-01

Project / Client D. Maynard

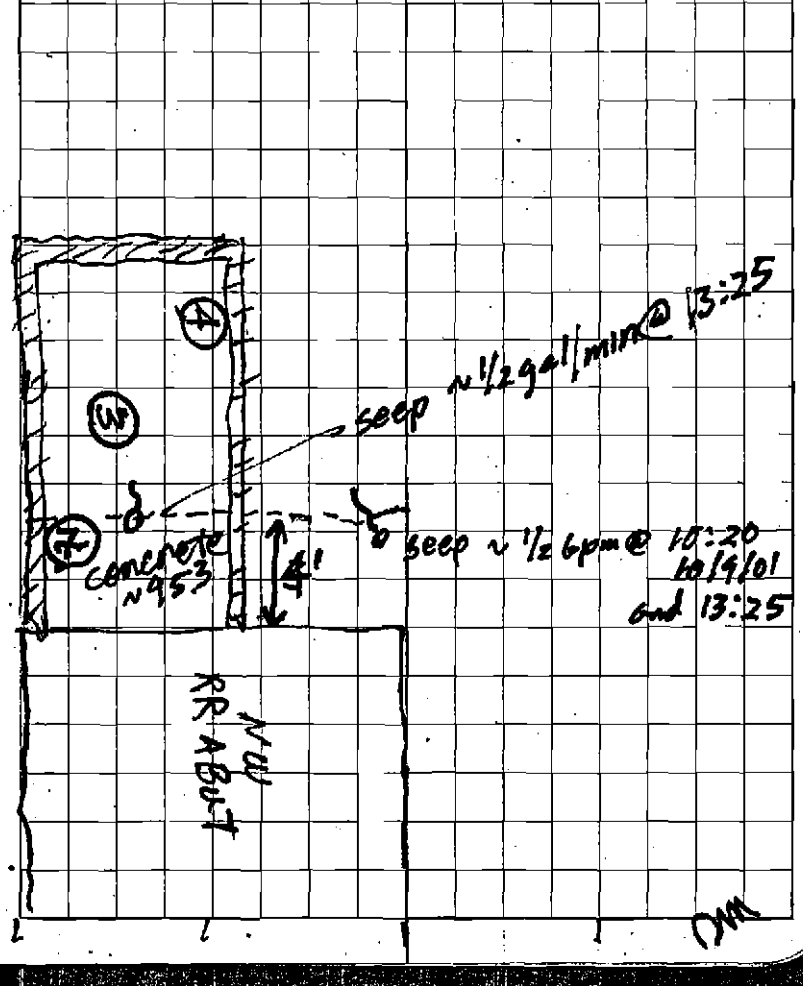
Soil Sample Locations



Location Date

Project / Client

1" ~ 5' N



Location PSCS RA BK#1 Date 10-9+10-10-01

Project / Client [illegible]

PID Headspace of Soil Samples

Sample #	Location	Elevation	PID (ppmv)	Soil Description
1	~6' w of SW Abut.	~93.5 FNGVD	0.0	Black Sat. CS + FS, sm gvl, SILT, Litt organics
2	~10' w of SW Abut.	~94 FNGVD	0.0	Black Sat. ang gvl + cobbles, wood, sm Silt, Litt SILT
3	~6' w of NW Abut.	~93.5	0.0	Same as above
4	~9' w of NW Abut.	~93.5	0.0	same as Above.
5	~14' w of NW Abut	~93.5	0.0	same as above
6	~15' w of SW Abut	~92.5	9.2	Black Sat Coarse + Med sand. Slight odor of tar
7	~3' w of NW Abut	~93'	0.0	Black Sat ang gvl + CS, sm MS, FS
8	~8' SW of NW Abut	~93'	0.0	SAA.
9	~8' SW of NW Abut	~92	0.0	Tan Sat. Fine Sand
10	~12' SSW of NW AB	~93	0.0	Black Sat ang gvl + CS, sm MS, FS
11	CTR + 10' west	~93	~~0.0~~ 0.1	SAA.
12	3' S of CTR + 10' West	~93	0.9	SAA
13	6' S of CTR + 8' W	92-93	0.0	Tan Sat Fine Sand
14	10' S of CTR + 12' W	92-93	0.0-0.5	Black " "
15	~15' W + 5' E of SW AB.	92-93	0.0	Black Sat ang gvl + CS, sm M, FS
16	~15' w of SW Abut CTR	92-93	7.4	SAA w/ Faint odor Coal tar
17	CTR + 12' west	~91-92	1.6	Black Sat. F+M Sand, some gvl
18	CTR-5' S + 10' W:	~91-92	3.0	SAA with FILL - tar odor
19	10' w of S abut.	~91-92	0.9	SAA NO ODOR
20	~12' w of SW abut	~92-93'	0.1-0.3	Brn Sat M + CS sm ang gvl
21	~17' w of NW, CR SW	~92-93	0.1	Black Sat ang gvl + Snd
22	~7' w of SW Abut	~91-92	0.0	Brn Sat CS + MS + FS gvl
23	~15' w of SW Abut	~90'	8.5	Grey Sat CS + [illegible]

Location ____ Date ____

Project / Client ____

[illegible initials]

Location PSCS RA BK#1 Date 10-9-01

Project / Client D. Maynard

excavation of Southend + N end
upper 4' of material is
primarily Angular Boulders
+ cobbles, some wood/logs
some Brown Med + cse Sand, little silt

8:00 PID breathing zone = 0.0 ppm
south end sheen on GW, no PID response
no odor - Biological? old
excavation Elev ~ 93 FT creosote Beams?

Beaver plugged 8" pipe below
RR Bridge aquadam again
(in spite of it being capped)

8:15 - Lake SG3 = 0.36'

End-of pipe ~~SG3~~ Turbidity = 10.5 NTU
BG = 1.5 NTU

9:00 PID AIR Breathing 0.0

used ~~Fill~~ Riprap + soil
from upper 4' to Buildout
ramp - exceeded Fabric in some
areas. DM

Location Date

Project / Client

RR Aquadam allignment ok
~~da~~ ~~NO~~ seep ~ 1 GPM @ pipe
~8:30 Top 3' Below I Beams

9:15 Canal SG4 ~~8.6~~ 8.24
pm

10:15 Dishcharge check - ok

10:40 By-Pass pump ~~Turned off~~ Dm
not pumping to full
efficiency - inlet not
clogged.

10:45 Air Breathing 0.0

Bypass pump suction lines ~~ok~~ Loss
10:45 SG4 Canal 8.22

Dry portions of N+S excavation
walls stable @ ~70° slopes

11:15 - bypass pump working
again.

9.4 NTU - Collect turbidity sample
from pipe outfall DM

32 Location PSCS RA BK1 Date 10-9-01

Project / Client D. Maynard

11:00 - SOILS w/ PID 9.1 ppm
John Hunt immediately
phoned THOR. Left
message - placed ~4 oz
in labeled Mason Jar on ice (#GRAWEIR)
excavation stopped
sorbent pads placed to
soak up slight sheen
North area with contaminated
soils isolated by
soil Berm from dewatering
Pump + Sump.

rotate + place Northern Aquadam.

11:55 refuel sump pump
infiltration FILLED Northern
excavation - sorbent pads
placed at outlet
No sheens in sump pump
Discharge area. DM

Location PSCS RA BK1 Date 10-9-01 33

Project / Client

pads not getting Filled - 12:25

12:25 Canal @ 8.17 SGA

Top of 6" intake 1.5' B.W.S.

12:30 Total seepage past RR
~ 2-3 gpm

13:30 re-start excavation
on North end, where
contamination was not
seen.

13:35 SGA canal 8.12'

13:50
Verbally instructed by THOR
to continue investigation
of extent of contamination
not more than 5 CYS
+ place SOIL on Poly.

DM

 Location PSCSRA #1 Date 10-4-01

Project / Client D Maynard

14:00 N end excavation
0.1-0.5 BG Air PID
(Down wind of excavator)

Excavate N End cribbing
Cribbing is 10" squared
beams set in cut groves
mortise & tendon with
~10" x 1" Diam IRON BOLTS
(Round w/ square heads)

Cribbing filled with nom.
1" Diam ang. stone

15:10 No seepage
below RR Canal Aqueduct.

/

DM.

Location PSCSRA #1 Date 10-4-01

Project / Client

14:40 SGA Canal 8.08
15:40 SGA Canal 8.04
1600 - Air breathing - 0.0
in excavation

PID + smell check of
excavation soils - No
indication of contamination
above 92'

5 ~~4~~ ~~3~~ buckets put on Poly -
mostly wood + 1" ang stone.

16:20 BYPASS pump off..

concrete on North abut ~~spe~~
extends 4' west

Dam should should move to DM
~~5~~ 6' west. pour concrete
between cribs (Not to be to compaction)

36 Location PSCS RA BK I Date 10-9-01

Project / Client D. Maynard

Lakeside Aquadams,
Alignment good
No seepage
No water
retained

S. Dam 3.1' high
M. Dam 3.0' High
N Dam 2.2' high

Contain Stockpile wrapped

Ramp extended onto beach
beyond silt fences
+ Filterbark
~ 10' Downhill
on beach (Filled
From Dam - temporary
stockpiles) DM

off site
18:00

Location PSCS RA BK I Date 10-10-01 37

Project / Client D Maynard

on-site Dum, Mike Smith
Fleet

Cal. OVM-2 TO 100 ppm-IB
reads 10.4 ppmv
BG 0.1-0.0 ppmv

Air temp. 55-65° 0-10 mph
waves 0-0.5' overcast

Canal staff gauges GA-8.01
@ 8:10

Turned off 6" bypass
pump

Inlet 4.5' H20 to bottom
Top of suction = 1.3'
0.5' intake hose -
4.5 - 0.5 - 1.3 = 2.7' clear

DM

38 Location PSCS RABKI Date 10-10-01

Project / Client E Maynard

8:15

Slight sheen in Discharge area.

8:20 water in excavation ~16" B concrete @ 95.2 setting up Pumps

Breathing space PID 0.0, HNU

8:30 collect 5 bag headspace samples from ~4 CY pile excavated During Last 15 minutes of work on 10-9-01

PID readings- 1.9, 3.2, 5.1, 7.6

entire pile put on polyencapsulated stockpile

8:45 sump pumps still being worked on.

Note concrete step on north AButment poured over wooden cribbing

DM

Location _____ Date _____

Project / Client _____

excavation pumped down by ~9:30

2 -> 3" pumps running.

John Hurff - mentioned lack of silt fence on bottom of ramp. I told Bill Masterlone + reminded him of requirements in plan. He chose to leave it as is. - easily differentiated material. from original beach.

ordered additional SILT Fence + placed around ramp DM

40 Location PSCS RAFB #1 Date 10-10-01

Project / Client DMaynard

Weir Layout - Station 1

BS on SW Abut: TBM = 100.19 read = 3.64 IH = 103.83

Read	Elev	Descript.
14.08	89.75	Base of Excav., S end.
13.43	90.40	Base of Ex, CTR
13.51	90.32	Base of Ex, N End.
9.53	94.30	concrete step off N. Abut.

S.B check excavation depth 12:00

Rod	Elev.	Desc.
3.64	100.19	TBM
12.85	90.9	crib @ S. end
13.25	90.6	exc. @ S. end on crib
14. ^	89	mid exc. 2 S. of @
15.19	88.5	mid to N
15.2	88.5	N. end
10.66	93.07	Top of cribbing - NW CNR

DM

Location _____ Date _____

Project / Client

Design Base 88.5

10:15 - Silt curtain in Canal Bent over - pulled back into place

Difference between E + West abut = ~~3.5~~ 4.

E/W

DM

11:35 8.03 SG #4

HI

100.19
3.64
103.83

103.73 HI
13.25
90.58

103.7
- 15.2
88.5

DM

42 Location PSCS RA FB#1 Date 10-10-01
Project / Client D. Maynard

check soil from hole
any Black scoops
checked - nothing
greater than 5 ppm ✓

HHT HHT III samples tested

anything > 3 placed
on plastic.
~40 CY Total

significant Flow entering
North end.

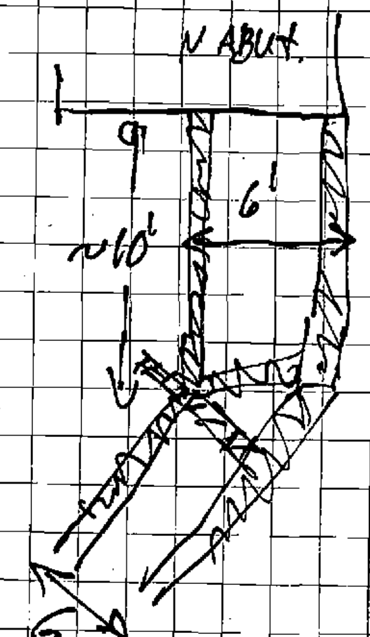
excavating 93-98.5
mixture of 1' stone fill
on N+S + m+ CS sand in center
of excavation.
some layering in
sands

16:10 Lake SG3 = 0.28'
3.9 NTU - Lake turbid @ SG3 + 20' w
6.4 NTU - BG turbid

DM

Location ______ Date ______ 43
Project / Client No Bypass pumping since 8:10
16:20 canal SG4 8.03'

E. edge Bikepath
Bridge is 8'10" from
South abutment
and 4' 10"
From N. Abutment



DM

44 Location PSCS RA Book 1 Date 10-11-01

Project / Client D. Maynard

onsite 7:45, DM, Fleet
John Hunt

50-70°F 10-15 mph Wind
partly cloudy

cal OVM-2 to 100ppm IB
read 102.5 BG-0.0

8:35 Screened entire
excavation Air —
0.0 ppm V on PID

8:50 SG4 - Cond 8.08'

11:30 PID excavation
0.0-0.1 ppmv

12:00 Place Fabric
Polaroid Photos
Excavation - 52+ x 12+

Location _____ Date _____ 4

Project / Client _____

12:15 check PID HS
of 3 samples from
East 5' grids excavate
3.1 ppm, 2.9 ppm, 7.6 ppm

Compact 1st Lift (~1.5'

test @ southern end = 89.6%
test in center = 89.2%
Test @ N END = 91.2%

set ℄ stakes
Northern stake 12.5' W
of North ABUTMENT
(8.5' W. of E edge Bike Bridg

Southern STAKE
16.5' off S. Abutment

Location PSCS RA Book 1 Date 10-11-00 various

Project / Client D. Maynard

RR Bridge Abutment Survey BM=103.64 FNGVD 1929

Inst. Elev	Rod	Elev.	Locat.	Date	Initials/Notes
108.67	5.03	103.64	SE CNR BM	10-11-01	8:25
	8.55	100.12	NE CNR		DM
	3.51	105.16	NW End		
	8.55	100.12	NW CNR		
	8.50	100.17	SW CNR		
	3.25	105.42	Bike SE		
	5.03		BM-SE		
108.53	4.89		SW CNR BM		10-12-01
	8.41	100.12	NE CNR		DM
	3.37	105.16	NW END		
	8.41	100.12	NW CNR		
	8.35	100.18	SW CNR		
	3.11	105.42	Bike SE		
	4.89		BM-SE		
108.67	5.03	103.64	SWC. BM		10-15-01
	8.54	100.13	NE CNR		DM
	3.51	105.16	NW END		8:00
	8.55	100.12	NW CNR		
	8.49	100.18	Bike SE		
	3.25	105.42	BM-SE		
	5.03				

Location PSCS RA Book 1 Date D. Maynard

Project / Client compare elevations to 10-1-01 survey on Page 8

Inst. Elev.	Rod	Elev.	Locat.	Init./Date
108.71	5.07	103.64	SE CNR BM	10-16-01
	8.56	100.12 5 10-17	NE CNR	DM
	3.56	105.15	NW END	8:30
	8.59	100.12	NW CNR	
	8.54	100.17	SW CNR	
	3.30	105.41	~~Bike SE~~ Bike SE ~~BM-SE~~	
	5.08		BM-SEC.	
108.73	5.09	103.64	SE CNR BM	7:35
	8.61	100.12	NE CNR	10-17-01
	3.58	105.15	NW End	DM
	8.61	100.12	NW CNR	
	8.55	100.18	SW CNR	
	3.32	105.41	Bike SE	
	5.09	103.64	BM SEC.	
108.67	5.03	103.64	SE CNR BM	8:30
	8.55	100.12	NE CNR	10-18-01
	3.52	105.15	NW END	
	8.55	100.12	NW CNR	
	8.49	100.18	SW CNR	
	3.25	105.42	Bike SE	
	5.04		BM SEC	

48 Location PSCS RA FB1 Date 10-11-01

Project / Client

BM on SW Abut TBM = 100.19

Rod reading on TBM = 3.62

Elev. INST. ELEV = 103.81

~~ROD~~ Elev.	~~Elev.~~ ROD	Description.
89.88	13.93	S End ~10:30 am
89.48	14.33	
89.54	14.27	
88.84	14.97	
88.82	14.99	
88.73	15.08	
91.62	12.19	NE
93.16	10.65	SE
93.19	10.62	SW
92.97	10.84	crib SE
91.52	12.29	crib NE
103.81	3.62	TBM 11:45 am
88.09	15.72	S. End
88.69	15.12	TOP of timber crib ~10' from S END
88.43	15.38	20' From SEN
88.77	15.04	
88.56	15.25	
88.55	15.26	

clean up corners + place Fabric.

Location Date 49

Project / Client

message from Karen, EPA afternoon 10-10-01 and AM 10-11-01

617918 1437 ~~418~~ 13 Provide updated schedule Jean - estimate increased RIP RAP ~~Cos~~

Due to moving Down -

onsite material OK if screen

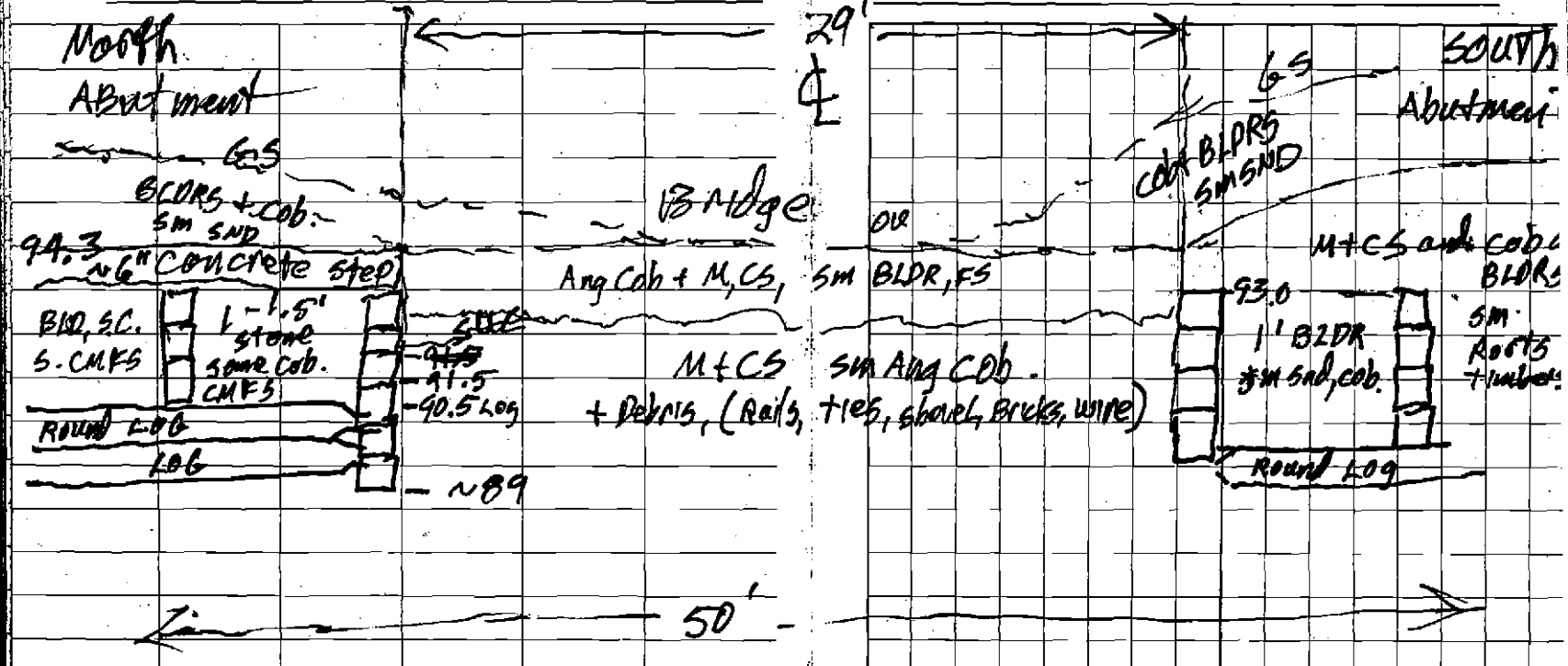
~10:20 collected 4 Bag hs reading From ~20 CY Below

pid readings | Bottom of pit
North 1.8 ppm | Final cleaning
South 3.4 | ~90' - 88.5
East - 1.8
West - 2.5

DM

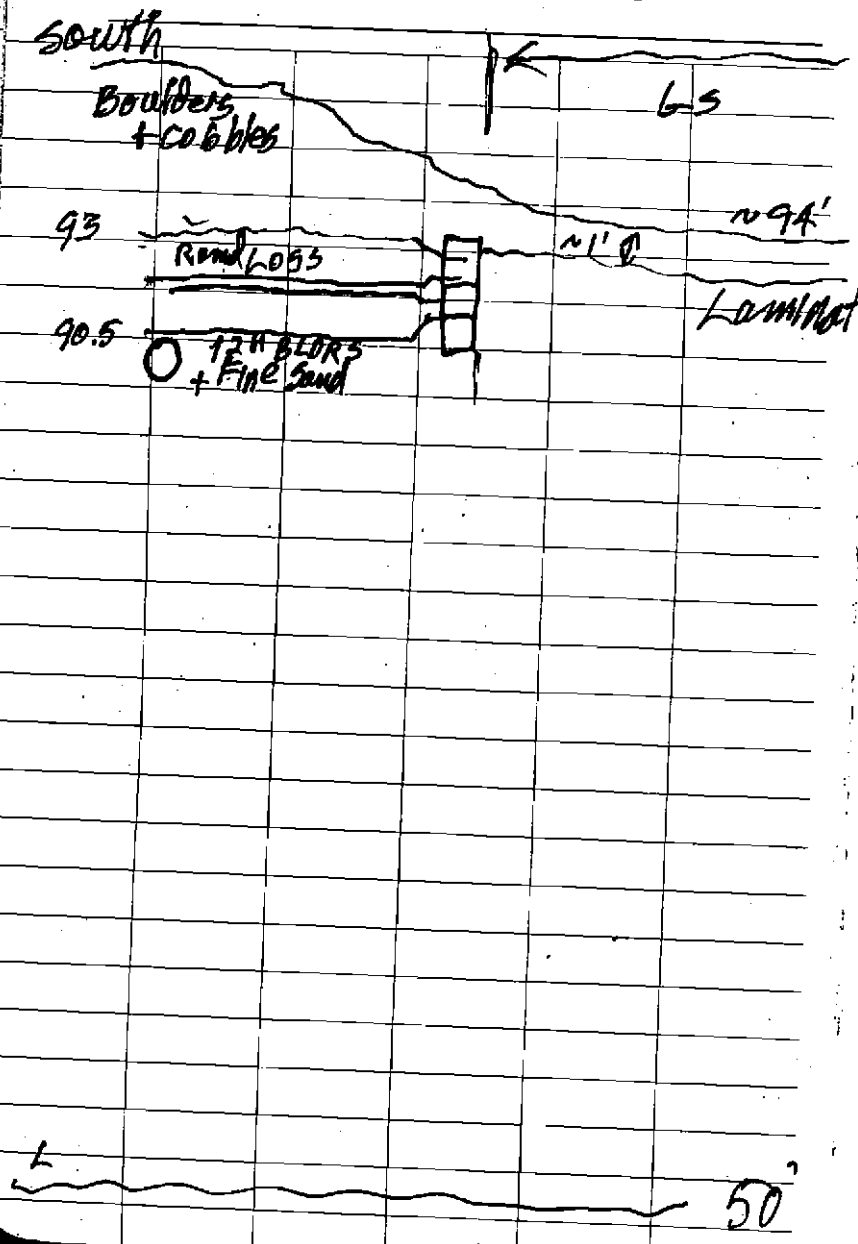
50 Location PSCSRA FB#1 Date 10-11-01

Project / Client D. Maynard



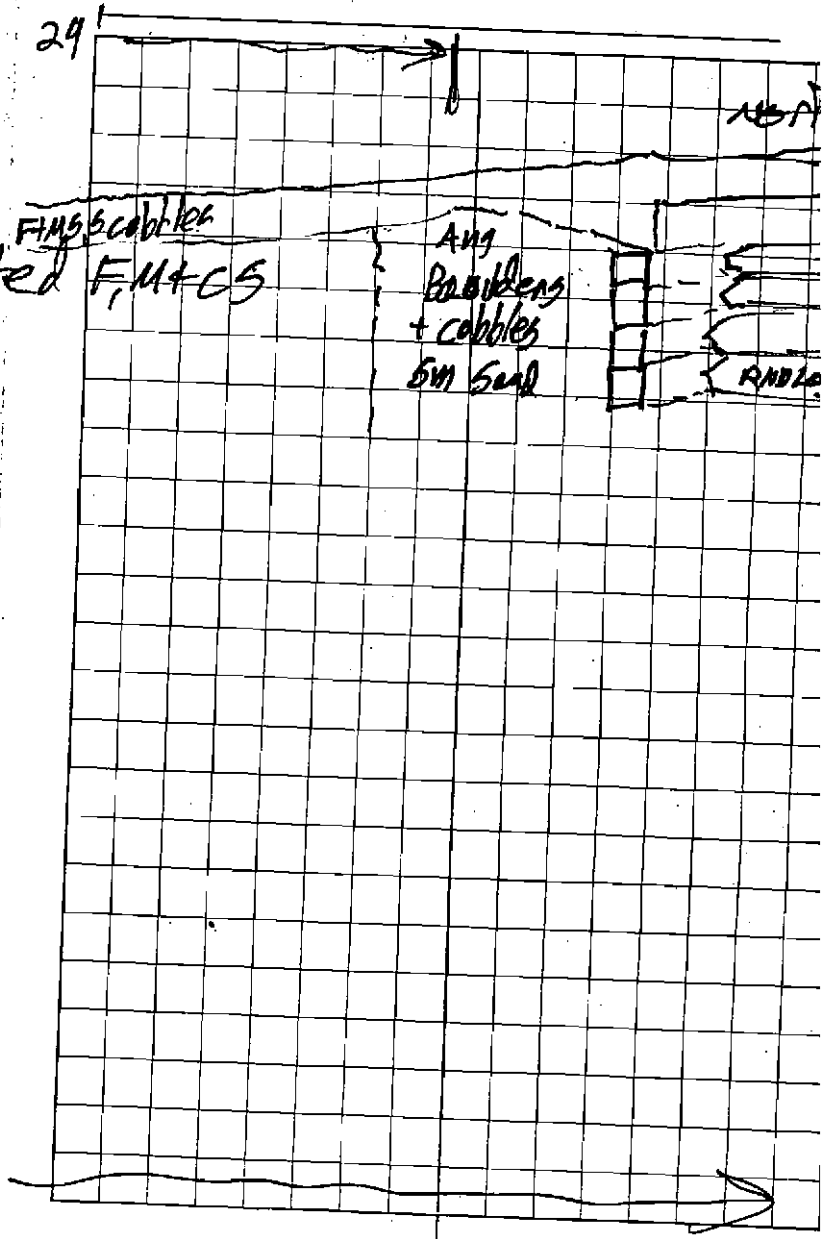
52 Location PSCS RA FB#1 Date 10-11-01

Project / Client R. MAYNARD



Location _____ Date _____

Project / Client _____



Location PSCS RA FB#1 Date 10-11-01
Project / Client D. Maynard

7 TOTAL Truck loads
sub base Delivered.
~ 15 TON LOADS

sub-base upper Lift Tracked
South end 1/3 rd
92.1%

87-88% First Pass -
recompacted.
90.8% and 91.9%
N end CTR

16:50 Lake SG-3 = 0.23

Turbid - 20' W of SG3 - 3.3 NTU
BG 1.6 NTU DM

	ROD	ELEV		+High / -Low
10/12-01	13.19	90.58	N end, E CNR	+.08
OK	3.58		TBM - end	

DM

Location PSCS RA FB#1 Date 10-12-01
Project / Client D Maynard

onsite 7:25
Cal. PID re 103 ppm Iso
100 ppm IB

BG 0.6

Draw water from
excavation +
recompact

Design
West 91
East 90.5
CTR 90.75

Shoot TBM SW Abut
Rod = 3.58
Abut Elev = 100.19
Inst Elev = 103.77

Rod	Elev	Loc	+ High / - Low
12.92	90.85	CTR S END	+.35
13.10	90.67	E CR S END	+.17
12.82	90.95	W CNR S END	-.05
12.99	90.78	CTR OUTR	+.28
13.31	90.46	CTR E	-.04
12.81	90.96	CTR W	-.04
12.88	90.89	N end W	-.11
13.05	90.72	N END CTR	-.03

DM

 Location P5C5 RA FB#1 Date 10-12-01
Project / Client D Maynard

Elev	ROD	Δ	HI 103.77
100.73	3.04	-.02	CTR End
100.70	3.07	-.05	CTR CTR

check - PID in hole ~9:00
0-0.4 (exhaust smell from pumps)

BILL - Grizzly screen

RRAQUA Dam allignment
Top 3.0' BI Beam good
retained H_2O ~10-12" - no Leaks minor seep @ pipe. ~1/4 cup per min.

9:30 SG4 canal - 8.16'

Bypass inlet 1.3' Bws
screen of inlet. 2.9 F Above bottom
turn on bypass 9:35

Floating curtain working well.

10:30 SG4-Canal - 8.12
12:30 SG4-Canal - 8.03
12:30 Shut Down pump DM

Location ______ Date ______
Project / Client ______

after Grading

Bypass
Vent: yellow + Green Primelines

To shut Down reduce throttle + turn key

Press Button + Hold
turn key - OIL pres 400 kPa

1500 Rpm For prime
increase To 1800 rpm after prime.

9:50 SG3 Lake level 0.35'

Discharge pipe turbid = 7.0 NTU
B.G turbid = 0.9 NTU

DM

7 1.0' gravel past forms for Base except SW + SE CNRS and cribbing @ NW CNR.

Base 15 51' Long to allow 50' stem

univ. UT Archeologists on-site.

10:15 PID check inhole max 0.4-0.5 ppm(v)
BG air near pumps above Ground = 0.7-1.1 ppm

0-5 mph wind, 55-65°F
0-0.5' waves overcast

11:35 check PID in hole 0.5-0.6
0.4-0.5 BG owing from excavation

DM

11:35 SG4 - Canal 8.07'

11:30 - ~~14:00~~ 14:30
Wait on historical people to photograph excavation prior to shoring up slopes.

Dr. ~~D~~ John Crock
652-4310

13:45 BG Air 0.5-0.6 ppm(v)
PID in hole 0.3-0.7 ppm

Lakeside Dams
All Alignment Good -
No water retained
S. Dam 3.3' high
M. Dam 3.0'
N. Dam 2.2' (retilled)

8" sump off 15:50 DM

Project / Client D Maynard

onsite 7:15 Plect/ st GMZ wolf

WL in excavation before pumping ~ 94 FNGVD

pump 3, 3" pumps 6AM-7:45 TO remove all water above sub-base - Fully dry @ ~8:00

Aqua Dam below RR tracks

Leakage < 1/4 cup/min @ pipe

3.0' B.I Beam

Good allignment

7:30 1.3' H_2O retained

7:30 SG4 Canal stage = 8.23 (94.23 FNGVD)

Floating silt curtain OK

Bypass intake 1.3' BWS - 3.2' above Bottom

Project / Client

7:30 cal. OVM / PID TO 100 ppm IB reads 100.1 ppm

BG Air @ trailer = 0.4-0.5 ppm

8:00 check excavation breathing zone - 0.1-0.3 ppm except within 6' of pumps 0.9-1.3 PPMV in areas w/ exhaust

cobble Landslide in SE CNR - ~1/3 CY over weekend

8:20 - 6" bypass turned on.

WL in Lake - SG3 below 0.2' (buried portion of Gauges)

8:25 bypass outfall turbidity

bypass = 5.2 ntu

Background = 1.1 ntu

Lake Dams - Allingment OK

no water - S Dam 3.5', M Dam 2.5', N Dam 1.8'

 Location PSCS RA FB#1 Date 10-15-01
Project / Client D. Maynard

60-65°F 0-15 mph wind, ~~0-0.3~~ 0-1.0' [illegible]
overcast + showers

9:30 inspect slab re-enforce
Reinf. types + placement + ties ok
clearance to edges
3.5-4"

N-10:00 AM TBM SW CNR RR Abut = 100.19
Rod = 3.64 Inst. Elev. = 103.83

ROD	ELEV.	~~E side Reinf. S end~~			
13.18	90.65	E side	~~Form~~ Send Base		
11.65	92.18	ok "	ref.	CTR	> Δ = 0.3
11.36	92.47	"	Form	CTR	
11.63	92.20	ok "	ref.	N end	> Δ = 0.31
11.32	92.51	"	Form	N END	
11.58	92.25	W. side	ref.	N end	= Dropped re-enf. > Δ = 0.72 ~ 0.5"
10.86	92.97		Form	N END	
11.72	92.11	ok	ref.	CTR	> Δ = 0.96
10.86	93.07		Form	CTR	
11.68	92.15	ok	ref.	Send	> Δ = 0.77
10.91	92.92		Form	Send	
11.68	92.15		ref	NW CNR	

Spec: Top of concrete slab = 92.5 FNGVD
spec Top of steel = 92.17'

Location ____ Date ____
Project / Client ____

St. Griswold 4000 psi spec
per 10/5/01 submittal
13.7% cmt
1.5% Fly ash
6.9% H_2O
34.2% sand
43.7% 3/4 stone
2.8-3.3 oz/cy Micro Air
6-8 oz/100 # cmt Daracem 65

3" max slump for footing
water/cmt ratio = 0.5 per submittal.
DMM note: 0.6 ~ 4500 psi @ 28 Day per 3 tests
max slump w/ plasticizer = 7"

5 cylinders test @ 3, 7, 2 @ 28
(get six).

Test (shoot) SW CNR CML 11.36 Rod
after 2nd load =92.47

 Location PSCS RA FB#1 Date 10-15-01
Project / Client D Maynard
FOOTING

pump off - 16:00

check air - breathing zone in excavation - 10:30 - 0-0.3 ppmv

SGA-Canal @ 8.20 @ 10:35

SGA - Canal @ 8.15 @ 12:00
SGA - Canal 8.10 13:35
SGA Canal ~~#~~8.07 15:15

pumptruck #900/32 (#33
on-site 13:43

2nd Truck #68 onsite 15:00 ~ Done 15:20
Full of water
wt slip 14:01 time
water added - hard to read due to slope est 20-30 gal
Placed to - 3' S of cy Slump = 4"

3rd TRUCK #67 - initial ~0 Gal on Gauge
added ~10 gal add ~8 Gal
mixed @ 14:21, onsite 1525
Done - 15:45
placed 3' S of CTR TO ~6' N of CTR

Location PSCS RA FB#1 Date 10-15-01
Project / Client D Maynard
Concrete Base placement

1st Truck # - Arrive - init H_2O on guage.
77 14:30 2 gal of 150 gal total
7.5 CY - Batched 13:50 (~~to 135~~ gal)
ticket #611454

5% AIR. per St. GN6 1000 ld

Mix No. 196 -

Sand 10800 #	micro Air 21
57 GVL 23650	Dara 65 275
Type I cmt 4090	No water
Ash (4600-4090) = 510	added on-site
Total wt ~~28250~~ = ~~40784~~ DM	H_2O: 203 g = ~~1734~~ 1689#

Load emptied 14:50

ratio water / cmt = 0.42 cmt / total = ~~8.10.0~~ 14.5% DM

Placed - ~~SE~~ CNR 0-6' N
SW CNR 0-18' N

4th Truck # 96 on-site 15:52
init. H_2O < 0 mixed 14:32
Added water - 6-10 gal..
Done - reads 3 Gal.
placed ~6' N of CTR TO ~6' S of N end

 Location PSCS RA FB#1 Date 10-15-01
Project / Client D. Maynard
Concrete Footing placement

5th truck #97 on-site 16:15
+ Log
Start H_2O = 0 gal
Leaving H_2O tank
placed in Northead. (placed 16:25) mixed 14:47

Check concrete Elev. -
West side CTR Rod = 11.35
Inst. Elev. 103.83
103.83 - 11.35 = 92.48 OK DM

D. MAYNARD 10-16-01

8:15 - cal. OVM#2 PID to 100ppm IB
+ reads 100.2, Bg 0.5-0.6 ppmv

50°F 0-10 MpH - 0:0.5' wave
partly cloudy

8:50 excavation PID
Breathing space 0.2-0.3 ppmv
DM

Location Date 10-16-01
Project / Client

RR Bridge aquadam alignment c
Leak < 1/4 cap/min
height 3.0 F B I Beam
retained H_2O 1.0'

9:00 Canal 564 - 8.07'

Floating Silt curtain + Boom working

Bypass pump inlet 1.4' BWS
(NOT Running) 2.9' Above Bot

Polyencapsulated stockpile
Vol 8' base × 40' base
~ 24 CYs × 4' high.

overnight up to ~ 93.5
20 minutes to decont

TOLD John Hunt that we will
polyencapsulate soils with
elevated PID readings in Alen
in accordance with Section 3.4
work plan.

68 Location PSCG RA FB#1 Date 10-16-01

Project / Client D. Maynard.

PID in excavation @ 12:30 = 0.4-0.5 ppmv.

estimated required Riprap Volume estimate x 1' thick

(25' wide x 50') - (10x15x0.5)

~ 1250 CF - 75 = 1175 CF min

max [1175 CF x 1.5 = 1763 CF

NEED ~~14~~ 65 CY

estimated available on-site material suitable for riprap.

stock piles

½ x (25' x 7' x 3') = ~~2713~~ 263 CF

½ x (30' x 8' x 4') = 480

1 x (12' x 60' x 1') = 720

⅓ x (25' x 13' x 5') = 541

½ x (40' x 5' x 3) = 300

2300 CF

Have 28-43 CY

say ⅓-½ usable stone = 760 - 1150 CF

Spec Base of RIPRAP = 92.5

Location Date 10-16 + 10-

Project / Client ROD @ TO slab = 11.28

1" ~ 10' Inst. Elev. 10

Location PSCSRA FB #1 Date 10-16-01

Project / Client D. Maynard

14:35 8.09' @ SG4 Canal

Steve Mangione + Karen Lumino - on-site ~14:15

~25', ~ 50' W of Gate in RR Fence + seawall, and ~100'. (Due west of MW21A+B)

7. Dig holes - No evidence of ~~contamination to~~ visual or olfactory ~ 1 FBGS eg. ~92.5

(~0.5 - 1 FB water surface ENGUD

Put samples in Gloves for PID of 3

~~PID HS of 3 samples~~

~~Black anaerobic smelling sand.~~

BG GLOVE = 5 ppm

tests not conducted. DM

Location ______ Date ______

Project / Client ______

String test PZ1A+B TO ~7 FBGS - NO stain or odor on string

Lake side weir

No water - good align

N end - 1.8'

M ~~end~~ middle - 3.0'

S end - 3.5'

16:50 Lake SG3 = <0.

20' W of SG3 Turbid = 9.4 NTU

BG = 4.3 NTU

(bypass not run today)

DM

 Location PSCS RA-FB#1 Date 10-17-01
Project / Client DM.

onsite 7:00

7:45 - SG4 canal - 8.12'
start-up bypass pump

bypass intake 1.3' BWS, 3.0' u.bottm
Hoses/couplings OK
Floating siltcurtain + Boom/sweeps working

RR Bridge Aquadam
good alignment - 3'6. I Beam
~1' water. <1/4 Cup/min leak

S end excavation -
more sand washed Down
SE CNR undercut ~ 12" below Marble Bldr

inspect reBar - westside stem
Found 5 w/ 7" or 9" spacing -
From South #4, 15, 22, 26, 51
mostly corrected 10-18-01 by placing splices from E side. seepg DM

Location ________ Date ________
Project / Client ________

8:15 = SG3 Lake stage <0.2'
outfall pipe turbid = 5.1 NTU
BG turbid = 4.1 NTU

Lake Aquadams Align. OK
no water N=1.7, M=3.0, S=3.4'

VT Testing called
1st cyl. break on
slab = 2650 PSI -
DM said OK to strip forms From Footing

move 30-35 CY soil to Area 3
in poly encapsulation (includes ~ 4 cy below poly).
Material is considered non-hazardous based on PID readings - previous analysis of site soils, odor + appearance.

DM

 Location PSCS RAFB1 Date 10-17-01

Project / Client D Maynard

cal. PID OVM-2 TO 100ppm IB
reads 99.5 ppmv BG-0.5ppmv

40 ~~50~~-55°F 10-30mph, 1.0-1.5' waves
cloudy-showers

10:20 PID in excavation
0.2-0.3 ppmv

10:25 Canal 564 up = 8.04

~ 60 CY concrete (minus crest) say 50 CY
~~70 CY subbase (7, 14 Ton trucks)~~
actual 20 CY
± ~~40 CY~~ subbase around footing
~~estimated~~
DM 10-18-01
± ~~160 CY~~ - imported ~ 140 CY

soil removed on 10-17-01
~ 30-35 CY pole encapsulated soil
and TWO 14 ~~20 ton~~ truckloads of
screened soil (sand)
e.g. 38 CY of screened soil.
70-75 CY removed.
DM

Location ______ Date ______

Project / Client ______

spec top of RIPRAP = 94.0' (1.5' thick)
top of footing = 92.5'

10:50 Turned off Bypass pump

15:00 3/4" st. Griswold Plant mix
Delivered - visual inspection
on truck - OK

16:15 2nd Load ~ 10 CY each

~~step 4" 11 - additional two inches~~
~~at Base on East~~

6½" ~~to steel a Base~~

proposal by concrete
contractor refused

alternative 1½" bevel
on east side instead
ADDED 2X4" instead of
1½" Bevel on 10-18-01
DM

 Location ~~[illegible]~~ RA FB#1 Date 10-18-01
Project / Client D. Maynard

clean Base of stem concrete
check re-enforcement
Bar #5 From Southend
#9 (From 5) rebar (1st Bar after
end abutment - east side too high
HAD TO ~~OK to bend or cut~~ Down 2" 4" From
#8 Bar (to south.) ~~Spliced~~
#9 Bar Bent south to within 5 A Butment
#10 Bar, E side, 1½" to high,
had to ~~Bend, Splice~~ Bent Down

#12 Bar - E side - ½" too high - ok
For 3" cover

23 Bar 9¼" From #24 - East side top
OK

28 Bar 8¾" from #27 at top - E side
OK

West side separation @ sluice
(to wall) # 35, 36, 38, 39, 41 + 42
4½ - 5½" clearance - OK

DM

Location ______ Date ______
Project / Client ______

8 verticals in end abut - south
Furthest North w/ 4" separation

Sluice way from Bars
35 - 44 (From South)

#51, West side top 15 9½"
From #50 - OK

#55, 9¼" From #54, OK

N. abutment, Verticals -
#70 - 76

Abutment re-bar ~ 0.5'
Low (see pages 78-80)

corrective action / construction change: #5 Stirrups with 2'
over lap spliced onto
7 bars (verticals)

Bobe Form = 4'10" - 3½" top
4" Depth to Rebar ~~East~~ West side Dn 4½" bottom

78 Location PECS RIA FB#1 Date 10-18-01

Project / Client Dam. First. Elev = 103.65 NGVD

TBM - SW Abut elev = 100.19 ROD = 3.46

ROD	Check Elev.	Recat.	
H.I.	92.48	SECNR FOOTING - SWest	
6.41		Rebar #1	
6.36			#2
6.45			#3
6.39	N ½ FOOT LOW		#4
6.40			#5
6.30	97.25		#6
6.32			#7
6.33			#8
7.26	H Fixed		#9
7.33	H Fixed		#10
7.44			#11
7.40	H OK 0.04'		#12
7.43	H OK 0.01'		#13
7.44			#14
7.42	H OK 0.02'		#15
7.46			#16
7.52			#17
7.46			#18
7.52			#19
7.49			#20
7.49			#21
7.45			#22

calc critical Rebar elevations.

ABut @ 98

98.0 - 0.33 clear

97.67'

HI - Elev

103.65 - 97.67

5.98 ± .04

Rod 5.94 - 6.02'

West 96.5'

96.5 - 0.33' clear

96.17'

103.65 - 96.17

Rod 7.48 ± .04

7.44 - 7.52

SLUICE

Rod 9.44 - 9.52

DM

Location _____ Date _____ 79

Project / Client _____

Check

ROD - Elev		Location	ROD	Elev.	Loc
7.48		Rbar # 23	7.56	Low OK	46
7.45		24	7.47		47
7.47		25	7.57	L OK	48
7.46		26	7.56	L OK	49
7.49		27	7.52		50
7.51		28	7.49		51
7.53	L OK 0.01'	29	7.52		52
7.50		30	7.46		53
7.53	L OK 0.01'	31	7.46		54
7.48		32	7.46		55
7.47		33	7.47		56
7.52		34	7.43	H OK	57
9.51		35	7.45		58
9.51		36	7.47	H OK	59
9.62	Low OK	37	7.43	H OK	60
9.66	Low OK	38	7.46		61
9.61	Low OK	39	7.49		62
9.63	Low OK	40	7.46		63
9.59	Low OK	41	7.46		64
9.57	Low OK	42	7.42	H OK	65
9.57	Low OK	43	7.45		66
9.57	Low OK	44	7.49		67
9.51		45	7.44		68
7.48					

#6 temp steel to be replaced on top - min 0.06' low

DM

80 Location PECS RA FB#1 Date 10-18-01

Project / Client D Maynard

Invert Elev 103.65

ROD	ELEV.	Locat.	
7.49		69	
6.46		70	
6.49		71	
6.47	~ 1/2 foot low	72	
6.48		73	
6.51		74	
6.50	97.15	76	
6.47		76	
11.13	92.52	NW CNR FOOTING	
7.15	96.50	west FORM RR#76	
7.14		#80	
7.15		#65	
7.16		#55	
7.15 –		#45	
7.17	48	#35	Fixed
7.16	47	#20	Fixed
7.15 –		#20	
7.14		#10	
7.19	96.46	#1	Fixed
3.46	OK	TBM (100.19 FINISHED)	

DM

Location Date 81

Project / Client

10:30 Turn on bypass pump

40-50°F 0-5 mph wind 0-1.0' waves
Partly cloudy - clearing later.

Lakeside Aquadams
N. Dam - Lost water - Flat to 0.7
M Dam - 2.8'
S Dam - 3.4'
No water impended - All gunnet OK

11:55 563 Lake < 0.2'
bypass Outfall turbid = 7.3 NTU
BG turbid = 7.1 NTU

Bypass pipe / Fittings OK
+ outFall
Sump pump pipe Fittings
intake + outFall
OK except Leak @ pump on outhose

RR Aquadam - no leak - OK Angle
3'1" below I Beam 11-12" H2O
DM

82 Location PSCSRA FB#1 Date 10-18-01
Project / Client D. Maynard

12:00 canal SG 4 w = 8.02
bypass pump turned off

Booms, sweeps + Floating curtain OK

Bypass pump intake 1.3' BWS
3.0' above Bottom

Haybales fences -
westside ok
East side - some sand spilled
~ 1/2 cy, necessary for concrete + gravel truck access

Depth to rebar - westside
5 5" @ Base to 3 1/4 - 4" @ Top
Due to Base Being 1 1/2" too wide

DM

Location Date 83
Project / Client

35 Guides delivered
6' 5" x 2' 2 1/2" x 5 1/2" 0.17 m

~~Riprap~~
15:45
supervise + Both ADAM
FOR ADAM Kane
L.C. Maritime Museum
475-2022
Charlotte
482-6694

Toe installed with Bolts through plywood and wire Below through tabs -
(no post 2" Below Surface)

6" - 5 1/2" cover over Re Rods on S. END
corrected with spliced #3 temperature steel. to 5" or less.

4 1/2" - 6" clearance on N. End
south abutment extended 2"
Total stem length = 60' 2"

DM

84 Location PSCS RA TB#1 Date 10-19-01 10-19-01

Project / Client D. Maynard

TBM = 100.19 - SURR ABUT ROD = 3.47

Inst. Elev = 103.66

ROD	Elev	Location
		1/2" Tol. Top of chamber 96.5 crest
7.11	96.55	SECNR - E
7.19	96.47	SE CTR, S of Sluice
7.17	96.49	NE CTR N " "
7.11	96.55	NE CNR
7.15	96.51	SW CNR
7.15	96.51	SW CTR
7.16	96.50	NW CTR
7.15	96.50	NW CNR
	Specification	96.50

Rod TBM = 3.62

Insl Elev = 103.81 10-19-01

ROD	Elev.	Off	Spec.	Location → TBM SW
3.62	100.19	103.81		
6.22	97.59		97.67	TOP Rebar #1
6.27				#2 (4" space)
6.27				#3
6.31	97.50			#4
6.23				#5
6.22				#6
6.24				#7
6.27				#8 pm

connected + raised +0.1'

some 3/4" Fibers in concrete

Location Date 10-19-01 85

Project / Client

ROD	Elev.	off.	Spec.	Location
9.33	94.48	✓	94.50	S. TOP Sluice steel
9.34	94.47	✓	94.50	N. TOP Sluice steel
6.23			97.67	TOP Rebar #70
6.18	97.63			#71
6.19				#72
6.24				#73
6.28	97.53	corrected		#74
6.23				#75
6.25				#76

Sluice stoplog Frame Held w/ TWO 1/4" bolts each end into bulkhead - nuts will remain in concrete & be hydraulic cmted

Pump truck #32 on-site 11:20

Truck #75 on site 11:45 - 7C4

1st trip 5 gal on water Gauge 5" initial slump - 3" halfway

Placed across Bottom South to N. End of Sluice w/ 1.5' Deep.

Pushed w/ 1" Vib 20 in waterstops TO N. End

86 Location PSCS RA FB#1 Date Various

Project / Client BM – USGS Survey = 103.64 NGVD

Inst Elev	Rod	Elev	Locat	Date/Inst
~~Rod~~	~~Elev~~			
108.67	5.03	103.64	SE CNR - BM	10-19-01
	8.55	100.12	NE CNR	7:50
	3.51	105.16	NW END	AM
	8.55	100.12	NW CNR	
	8.50	100.17	SW CNR	
	3.26	105.41	BIKE SE	
	5.03		BM SE CNR	
108.64	5.00	103.64	SE CNR	10-22-01
	8.51	100.13	NE CNR	8:35
	3.48	105.16	NW End	PM
	8.52	100.12	NW CNR	
	8.46	100.18	SW CNR	
	3.22	105.42	Bike SE	
	5.00		BM SE CNR	
108.56	4.92	103.64	SE CNR BM	10/24/01
	8.44	100.12	NE CNR	7:45
	3.41	105.15	NW END	AM
	8.45	100.11	NW CNR	
	8.38	100.18	SW CNR	
	3.15	105.41	Bike SE	
	4.92		BM-SE	

Location PSCS RA FB#1 Date Various 87

Project / Client Compare with 10-1-01 on page 8
RR. Abutment survey

54.4 - Cont'd 8:00 – 8.04 10-19-01

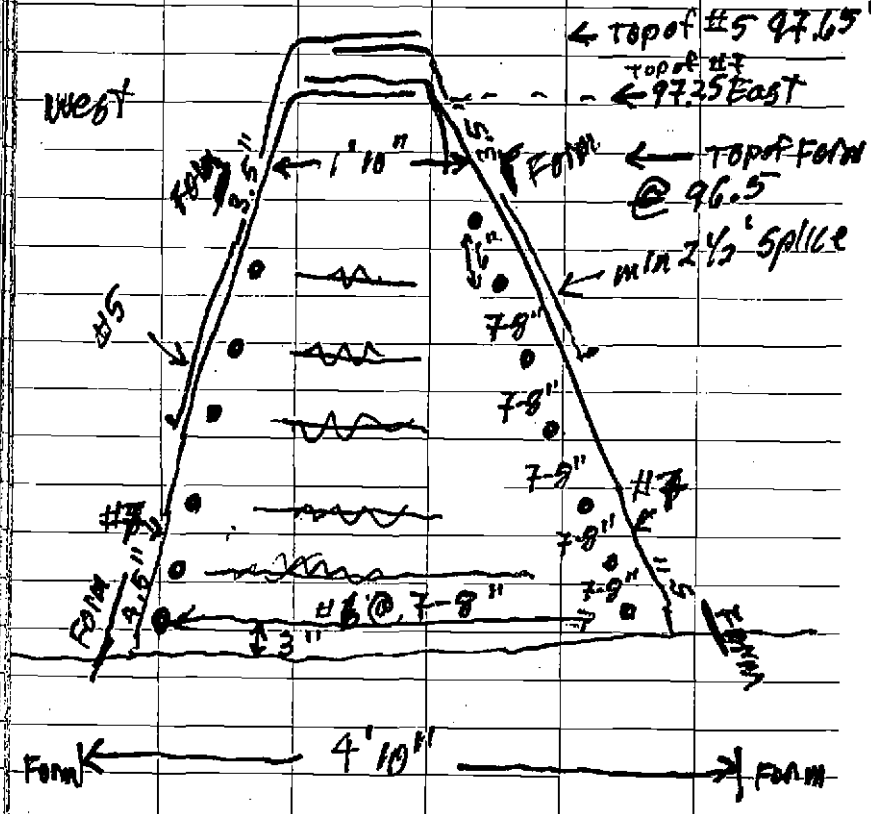
Inst. Elev.	ROD	Elev.	Locat.	Date/Initials

Location PSCS-RA-FB#1 Date 10-19-01

Project / Client D. Maynard

Abutment splice extensions

#5 Bar - U. End. (Same as S END)



Location Date

Project / Client

South

6" x 2" I.D Pipe Sleeves 10" From edge on Crest
15' 4" apart - set 5' 1½" apart for 2 CTRS

Pipe sleeve North crest
15" From sluice end
6" From Abut End.
15' 3" - set 5' 1" spacing For TWO CTRS

1½" concrete over water stop S. End.

4" water stop used for Abutment construction Joint - Design change Before concrete

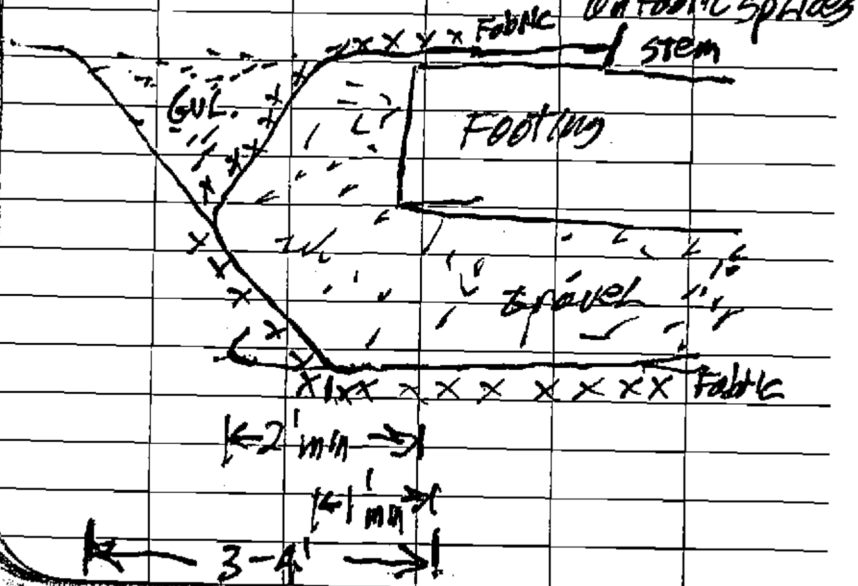
Crest width 2' 5⅞" @ spillway sluice

 Location PSCS RA FB#1 Date 10-19-01

Project / Client Don. Maynard

40-50°F 5-25 mph. 1' waves
partly cloudy

placed 3/4" plant mix on
East + West sides of Footing
TO ~ 92.5 FNGVD
gravel extends 2-4' beyond
Footing Top + Bottom
3-4' 2-3'
Fabric wrapped around gravel
@ 1' From Footing (top) 2' @ Bottom
and over slab - w/ 1' overlap
on Fabric splices



Location ___ Date ___

Project / Client ___

RRA aquadam - Align OK - No leaks, 3.1' B.I[illegible]
1.0' H_2O
Sweeps, Booms, curtain OK
(Biological sheen - Fragments when touched)
10:00 SG4 Canal = 8.04' (w) upstream of curtain

Bypass pump intake 1.3' B.I.S
3.0' A. Bottom
PID in breathing zone - excavation = 0.0 ppm

Lake aquadams
S - 3.4
M - 2.7
N - Elev @ 0.6'
Align OK - No water

11:00 Lake SG3 <0.0' <93.1 ft
30' w of SG3 turbid = 2.4 NTU
BG Turbid = 1.9 NTU

bypass pump not running

Lower part silt fence blown Down
OK - 4' From W. ramp Bank

Location PSCS RA FB#1 Date 10-19-01

Project / Client D. Maynard

Truck #4-ONSite 12:15
zero on H2O guage.
Added ~5 Gal.
7CY placed From N Sluice North
TOend ON 18" Deep
and From S end. TO ~12' N.
~18" to ~30" Deep
2½" Slump

TOLD that Griswold was pouring
Fiber mesh slab this am, and
Does not wash trucks between
Loads.

TRUCK #74 on-site 12:55
placed in Two Layers,
South end TO Sluice
First 30" - 36", Then TO Top.
AND ON NEND ~6" Thick
TO ~2' Total. Done ~13:10

Location PSCS RAFB #1 Date 10-19-01

Project / Client D Maynard

Truck #75 onsite - 2nd Trip
1 gal - 13:35 - 6¼ CY
Added 5 Gal.
placed in Northend -
2-4' (Top.) Done 13:45
3.5" Slump

Total Concrete = 27¼ CY

Place ¾" plant mix Gravel
on ends of Footing - extends
minimum 1-2' From Footing
and up TO 4 Ft thick and
six Feet From Footing,
particularly on SE + NE
Corners. Remove shoring
on South End (which was
to protect against unstable slope)

94 Location PCCS RAFB#1 Date 10-22-01

Project / Client D. Maynard

7:55 Conc. SG4 - 8.25 = 94.25

Canal Agua dam - 3.1' BIB = 4.3' High
1.2' water no leaks

Temp. @ concrete surface = 65°F

Jaques
+ Tara - UT testing - 8:20
2580 + 2590 psi on 1st breaks
→ Visual inspection of breaks
some fibers on break face
("not too much")

8:25 start BY pass pump.

9:10 Lake SG3 <0.2'
(but higher than 10-19-01)
bypass pipe turbid = ± 5.3 ntu
BG turbid = 4.5 ntu

DM

Location [redacted] Date 95

Project / Client

Taped distances

SE CNR FOOTing - SW CNR RR ABut (NE CNR of SW CNR)
15.7' ± 0.1'

SE CNR FOOT → SW CNR of NW RR ABut
40.1' ± 0.1'

SE CNR Foot → SW CNR of SW RR Abut.
12.2' ± 0.1'

Total footing length = 57.0'
Angle @ NW = 26.5° SW

NE CNR FOOTing → NW CNR of SW RR Abut 41.7'

NE CNR Foot → SW CNR of SW RR ABut 54.7'

NE CNR Foot → NW CNR of NW RR ABut 8.8'

NW CNR NW RR ABut → SW CNR NW RR A. = 11.2'

SW CNR	→ SW CNR SW RR Abut	21.6
"	→ NW CNR SW RR Abut	23.9
"	→ SW CNR NW RR Abut	43.5

DM

Location PSCSRAFB#1 Date 10-22-01
Project / Client D. Maynard

~60°F 0-5 mph, 0.5' waves, clear
PID Bg 0.1-0.2ppmv
Air in excavation 0.1-0.2ppmv

N end stem is 0.67' From N end Footing

Footing width = 10'

Final 2" socket locations (℄ (From N End stem = 5.6', 10.7', 15.7', 20.7',
From South endstem = 5.95', 11.2', 16.2', 21.3'
Crest Width @ CTR = 2'5 3/4", 2.5 @ N ends
2'6 1/4" @ S end

N stem = 22.0' Long, + Abut S. stem + Abut. = 22.2'

S END stem is 3" from S end Footing
W stem is 4'3 1/2" F W Foot. stem base = 4'10" E stem is 10 1/2" F E Foot.

N end - stem base = 4'10"
W stem is 11" From W foot, E stem = 4'3" From E Foot DM

Location Date
Project / Client

Survey top of stem Elevation
TBM = NW CNR of SW RR Abut.
= 100.19 F NGVD
Rod on TBM = 3.57'
Inst. Elev = 103.76

ROD	Elev	Loc.	
7.26		SW	S stem crest
7.23		SE	
7.28		NW	
7.28		NE	
7.29		SW	N stem crest
7.27		SE	
7.26		NW	
7.23		NE	
9.26		NE	Sluice
9.27		NW	
9.27		SW	
9.26		SE	
9.27		S steel	
9.28		N steel	

DM

98 Location PSCSRAFBH1 Date 10-22-01

Project / Client D. Maynard

Canal SGA reading 8.20 @ 10:00

Bypass on

Silt curtain - sweeps working

Bypass intake 1.3' Elev

3.2 F above Bottom

Hoses, couplings, discharge ok

removed Northern

Lake aquadam - replaced

riprap + driftwood onto

beach @ Northern end

(which was removed and

stockpiled separately on

10-3 + 10-4-01

DM

Sluice

5' 11½" wide East side, 6' wide west side

2' 3½" Length along East slope above foot

2' 0" Length along West Slope above foot

3' 8½" wide (Face to Face) (1" Face to bevels

2' ¼" Deep below crest.

N. Steel Log Guide 1' ½" - 1' 4⅞" @ Top from W. Face

S. Log Guide 1' 5/16" - 1' 5" @ Top from E Face

Location _____ Date _____ 9

Project / Client _____

Cloth tape ± 0.1'

Locations - Top of stem

NW CR - SW RR About →

SW CNR stem 17.5'

NW CNR S. crest 18.1

SW CNR N crest 22.3

NW CNR stem. 41.5

SW CNR - NW RR About →

SW CNR stem 40.5

NW CNR S crest 20.0

SW CNR N crest 15.1

NW CNR stem 14.7

DM

100 Location PSCS RA FB#1 Date 10-22-01

Project / Client D. Maynard.

Observed placement of sealant curing compound on wei rstem Compound is white when applied. Aguacure VOX - Acrylic curing compound. (Note: since foot is totally immersed each night, curing compound was not used on footing)

Broom finish was applied to crest.

No ratholes in stem - surface Bubbles up to 2.5" across and less than 1/2" deep.

Place 1 1/4" x 8" IP w/ cap (teflon taped) inside 1 1/4 x 1 1/4" Furnco coupling in each of 8 - sockets, and sealed place with 100% silicon caulk

---

13:45 - SG4 canal @ 8.06

14:20 SG4 - 8.04 - bypass pump off DM

Location Date

Project / Client

TOP OF Bevel in forms for abutment - Inst. Elev = 103.

Rod		
5.75	98.99	SW - N ABut
5.78	98.97	NW - N ABut.
5.78		NE N ABut
5.79	98.97	SE N ABUT
5.77		NE S ABut
5.77		SE S ABut
5.78		SW S. ABut
5.79		NW S. ABut

OK

check rebar - ok - #6 temperature bar @ 5" oc, forms with 1/4" cornet size + square

(note Southern ABut is 5'2" Long

Existing concrete is clean + Dry

DM

Location PGCS RAFB#1 Date 10-22-01

Project / Client D. Maynard

Abutment concrete placement

#48 on-site 15:10

Ticket # 611754 1.75 CY

Start Gauge = 2 gal added 26 gal

3" slump 72°F concrete upon delivery

mixed 14:40

observed Griswold technician perform slump, air entrain. cast 10 test cylinders. in 4 Layers - 20 strokes each.

Air entrainment 5.2%

Load empty 15:45

Concrete Done 16:15

Placed set two quarter one on each Abutment ~6" From N end of S. Abut + 6" from S end of N. Abut (For benchmarks)

~~compact Gravel east side of weir~~

Backfill east side of weir w/ on site material DM

Location PGCS RAFB#1 Date 10-23-01

Project / Client D. Maynard

Temp - 54 Griswold

710 psi @ 16 hrs - 7:30

1st cylinder from abutments

Place 3½ x 10' x ~6" hand placed riprap East of Sluice

10:10 - Canal Staff Gage 8.09'

55-60° overcast

5-15 mph wind

Native screened riprap placed to 25' W of Stream on Fabric - sizes 4" - 1' median size 1' DM

104 Location PSCS RA FB#1 Date 10-23-01
Project / Client D. Maynard

scrap wood - drift wood
in screened riprap
removed, but left
on-site
iron, steel + plastic removed
+ disposed of off site.

H2O TARA - UT Testing
CYL A break = 520 psi

13:40 Lake 0.2 <93.3 SG3
14:00 Canal SG4 8.12

bypass intake 1.3' BWS
3.2' Above Bottom

removed Middle + South
Aquadams
Filled dewatering
sump w/ 3/4" plus GVL MIX DM

Location PSCS RA FB#1 Date 10-24-01 105
Project / Client D. Maynard

SG4 - Canal 8.13 @ 7:05
SG3 Lake <0.2'
UT Test. Break on
Abut cylinder B
2180 psi @ 8:40

remove RR Bridge
Aquadam in canal outlet

60-66°F 0-5 mph wind
partly cloudy, 0-0.5' waves

10:00 ST Griswold - strip Forms
on Abutments + Place
curing compound

BackFill + Compact N + S
Abutments w/ native Fill
From Ramp - Brn Humid
Ang cobbles 4-12" and Gravel
and pebbles, some F, M Sand,
Few boulders (Hand picked out)

Place 12oz/yd. non woven Filter Fabric around Abutments and approx. 6' either sides and 10' past ends.

Place ~ 1.5' native Fill above Fabric to elevation @ ends of 99'+ and compact.
(99 FNGVD or more beyond abutment ends, ~ 96.5' at ends of Crest.)

Place ~ 1' Riprap over compacted Soil @ abutments.

Volume of Soil + riprap placed above 99 FNGVD. at ends of Abutments

N End 15' x 20' x ~2' = 600CF

S END 15' x 23' x ~2 1/2' = 863CF

600 + 863 = 1463CF = 54 CY DM

From page 74: material brought on sch.
50-60 CY concrete (depending upon slump)
90-100 CY 3/4 plant mix subbase
e.g. 140-160 CY brought on.

One 10/17 70-75 CY SOIL Moved to Area 3
+ ~54 CY of material placed above 98 FNGVD
e.g. - 124 - 129 CY soil removed + 20 + 40 CY as below ~ 140-170 CY

Cleaned up booms + curtains.

Placed ~ 35 CY soil From ramp against vertical eroded Bank 0-10' N of ramp and 5-35 FS of RAmp
Bank height ~ 3 yds
combined Bank Length ~ 13 yds
width added @ base ~ 2 yds DM
e.g. 20-40 CY placed above 98 FNGVD => BALANCED

55-60°F cloudy
20-30 mph 1.0' waves

Place additional riprap @ SE cnr weir Abutment (between weir + RR Bridge) @ request of Charlie Lemieux, VT RR

Final grading of Ramp Beach + Slopes. Place Loam @ Bos. Mulch Lower Slopes Topsoil, Seed + Mulch Top of Bank + ~4' Down + Cover with North Amer. Green S75 straw mat.

Check Base of Slope - all well above 98 FNGVD

Plant birches and crab apple @ Top of Slope

place topsoil + plant pine tree North of Bikepath to replace tree Cut. Sweep Bikepath.

Const @ 4" Below Sluice = 94.17 FNGVD

Place topsoil, seed + Mulch Staging Area + Fertilize

Inspect Area 3 Stockpile

END OF WEIR CONSTRUCTION

APPENDIX 2

SIGN-IN/SIGN OUT SHEETS

NAME	SIGNATURE	ORG.
THOR HELGASON		de maximis,
Bill MACFARLANE		ASG/FLEET EAV.
Don Maynard		JOHNSON CO.
John Pennington		VTR
JOHN PENNINGTON		VTR
Dan Stein	Daniel Stein	VTR 777-3041

Name	Company	Date	Time/In	Time/Out
Don Maynard	JohnsonCo.(JCO)	10-1-01	9:05	15:45
Bill MacFarlane	ASG/Fleet	10-1-01	9:05	14:00
Joel Behnson	Johnson Co.	10-1-01	9:05	15:45
Don Maynard	Johnson Co.	10-2-01	0900	16:45
Bill MacFarlane	ASG/Fleet	↓	0800	↓
Bill Grover	Fleet		↓	
Todd Crockett	Fleet			
Jason Vaughn	Fleet	↓	↓	↓
Thor Helgason	de maximis	11	12:00	18:20
Don Maynard	JCO	10-3-01	7:45	17:30
Bill MacFarlane	ASG/Fleet	↓	↓	17:30
Bill Grover	Fleet			15:30
Todd Crockett	↓			17:30
Jason Vaughn	↓	↓	↓	15:30
Thor Hellgason	de maximis	11 11	~~10:00~~ 8:45	~~14:00~~ 9:15
Kurt Soderburg	Fleet	10-3-01	11:05	17:30
Jay Menier	Griswold	10-3-01	230	3:15
Jay Mahoney	UT Gas syste		10:00	11:00
John Hunt	demaximis	10/3/01	1130	17:30
Joel Behrsing	JCO	10/4/01	7:00	15:00
Bill MacFarlane	Fleet		7:00	1620
Kurt Soderburg	↓	↓	7:00	↓
Todd Crockett			7:45	
John Hunt	demaximis	10/4/01	0750	1630
Chris + RR Flagman	~~Fleet~~		8:15	1620
Kevin Grooms	Fleet	10/4/01	9:15AM	4:15PM

Name	Company	Date	Time/In	Time/Out
[illegible]	Servpro	10/4/01	10:00	12:00
Jason M Decker	Servpro	10/4	10:00	4:10
Bill MacFarlane	Fleet	10-5	730	17:00
Kurt Soderberg	↓	↓	↓	17:00
Todd Crockett	↓	↓	↓	17:00
Don Maynard	JCO	↓	7:45	17:15
John Hunt	demaximis	10/4	0720	14:00
Jolbert	SERVPRO	10/5	8:55	15:30
Kevin Grooms	SERVPRO	10/5	8:55	15:30
Michael B. Smith	VT Dec	10/5	2:30	3:05/4
Don Maynard	JCO	10-8	9:00	17:45
Bill MacFarlane	Fleet	↓	8:45	
Kevin Grooms	Servpro	10/8	9:15	
Jolbert Alencio	Servpro	10/8	9:15	
Kirk I Soderberg	Soderberg	10/8/01	9:15	
Todd Crockett	Fleet Env.	10/8/01	9:15	
Pete Lovell	Fleet Env	10/8/01	920	↓
Kirk I Soderberg	Soderberg	10/9/01	7:10am	5:30
Pete Lovell	Fleet Env.	10/10/01	710	17:30
Todd Crockett	Fleet Env	10/10/01	710	17:30
Don Maynard	JCO	↓	7:10	18:00
Bill MacFarlane	Fleet	↓	7:10	18:00
John Hunt	demaximis	10/10/01	1000	16:30
Kevin Grooms	Servpro	10/10/01	9:30	16:00
~~Kirk S~~				

Name	Company	Date	Time/In	Time/Out
Don Maynard	ITCO	10-10-01	7:15	18:00
Mike Smith	VT DEC	"	"	8:25am
TODD Crockett	Fleet	↓	7:00	[illegible]
Pete LOVELL	↓	↓	↓	18:00
Kirk Soderburg	↓	↓	↓	18:00
John Hunt	dumaine's	10/10	0850	1600
BILL MacFarlane	Fleet	10-10-01	7:30	18:00
Joel Belinsky	JCO	10-10-01	10:45	3:30
Jean Choi	EPA	10/10/01	11:20	15:45
Hasan Abedi	M&E	10/10/01	11:20	15:45
Michael Smith	VT DEC	10/10/01	2:30	3:30pm
Don Maynard	ITCO	10/11/01	7:45	18:00
TODD CROCKETT	Fleet	↓	7:00	↓
Pete Lovell	↓		7:00	
Kirk Soderburg	↓		7:00	
BILL MacFarlane	↓ 05:30 sus.		7:00	↓
Jean Choi	EPA		7:45	11:00
Hasan Abedi	M+E	↓	7:45	13:00
John Hunt	dumaine's		0850	1710
Michael B Smith	VT DEC	10/11/01	9:35	10:30
Kevin A perry	VT testing.	10-11-01	10:00	15:00
Scott Swanson	ST Griswold	10-11-01	1:00	1:15
Daniel Raymond	St Griswold	10-11-01	100	115
Michael Cathaway	St Griswold	10-11-01	100	115
Brad Bell	St Griswold	10-11-01	100	135
John Arnot	St Griswold	10-11-01	100	115

J:\PROJECTS\1-0870-2\signin-outsheet.wpd April 27, 2000

Name	Company	Date	Time/In	Time/Out
Don Maynard	JCO	10-12-01	9:25	16:30
TODD CROCKETT	~~JCO~~ Fleet		6:30	15:30
Kirkgomenburg	JCO Fleet		6:30	15:30
Pete Lovell	Fleet		6:30	12:30
Michael Smith	VT Doc	10/12/01	7:20	11:00 am
John Rooney	St Griswold	12/10 01	7:00	3:30
Dan Raymond	St Griswold	12/10/01	7:00	3:30
Mike Holloway	St Griswold	12-10-01	7:00	3:30
Bradley Bell	St Griswold	12-10 01	7:00	3:30
Scott Swanson	St Griswold	12/10-01	7:00	3:30
Eric Gilbertson	Div. Fire Haz. Mat.	10/12/01	7:30	13:00
[illegible]	[illegible]	10/12/01	7:45	13:00
Charles Knight	UVM CAP	10/12/01	10:00	13:00
John G. Crock	UVM Anthropology	10/12/01	10:00	15:00
Chris Crandell	JCO	10/12/01	11:00	11:30
Kris Hemmer	JCO	10/12/01	11:30	15:30
Brian Roddy	S.T. GRISWOLD	10/12/01	8:00	3:30
Daniel Raymond	StG.	10/15/01	7:00	2:00
Scott Swanson	S.t. G	10/15/01	7:00	
Don Maynard	JCO	10/15/01	7:15	17:30
Tim Pierson	STG	10-15-01	7:46	1705
Chris Larose	"	"	"	"
Todd Pelaquin	" "	"	"	"
Pete Lovell	Fleet	10-15-01	6:00	20:00
John Rooney	StG	10/15/01	8:00	1705
Mike Holloway	StG	10/15/01	8:00	"
Bradley Bell	StG.	10/15/01	8:00	"

Name	Company	Date	Time/In	Time/Out
~~Don Ma~~ Kirk Soderburg	Fleet	10-15-01	9:00	20:00
John Hunt	demaximis	10/15/01	1215	1643
Kevin A Perry	Vt Testing	10-15-01	1:30	4:30
John Rooney	ST Driscoll	10-16-01	07:30	3:00
Kirk Soderburg	Soderburg	10/16/01	0630	17:30
Pete Lovell	Fleet	↓	0630	↓
Todd Crockett	Fleet	↓	0630	↓
Scott Swanson	S.T.G	10-16-01	7:00	3:30
Don Maynard	JCO	10-16-01	8:00	17:30
John Hunt	demaximis	10/16/01	0810	16:30
Dianne Badger	Vt Testing	10/16/01	10:00	10:15
Daniel Raymond	St.G	10-16-01	1:00	15:00
Eric Gilbertson	State-DHP	10/16	1:40	3:15
Giovanna Peebles	Hist Pres.	10/16	1:40	3:15
Stephen Mangion	EPA	10/16	2:00	4:30
Karen Lumino	EPA	10/16	2:00	4:30
Don Maynard	JCO	10/17	7:00	15:15
Pete Lovell	Fleet	↓	6:45	↓
TODD CROCKETT	↓	↓	↓	↓
Kirk Soderburg	↓	↓	↓	↓
Scott Swanson	S.T.G	10/17/01	7:00	4:30
Brad [illegible]	S.T.G	10/17/01	7:00	4:30
Mike Holbrook	S.T.G	10/17/01	7:00	4:30
Dan Raymond	S.T.G.	10/17/01	7:00	4:00
BILL MacFarlane	Fleet	10/17	7:15	15:15

Name	Company	Date	Time/In	Time/Out
Brad Dell	S.T.G.	10-18-01	7:00	17:00
Mike Holloway	S.T.G.	10/18/01	7:00	↓
Scott Swanson	S.T.G.	10/18/01	7:00	↓
Dan Raymond	S.T.G.	10/18/01	7:00	5:00
Don Maynard	Johnson Co	10-18-01	7:20	18:15
John Rooney	S.T.G.	10/18/01	7:00	18:00
Pete Lovell	Fleet	10/18/01	0630	18:00
Todd Crockett	Fleet	10/18/01	0630	18:00
Kirk Soderberg	Fleet	10/18/01	0630	16:00
Adam Kane	L.C. Maritime Museum	10/18/01	3:35	435
Bill MacFarlane	Fleet	10/18/01	9:00	1500
Dan Raymond	S.T.G.	10/19/01	7:00	3:15
Chris Rose	S.T.G.	10/19/01	7:00	7:15
Jeff Janson	S.T.G.	10/19/01	7:00	3:15
Brad Dell	S.T.G.	10/19/01	7:00	3:15
Mike Holloway	S.T.G.	10/19/01	7:00	3:15
John Rooney	S.T.G.	10/19/01	7:30	3:15
Dianne Bridger	VT Testing	10/19/01	8:45	1400
Don Maynard	JCO	10/19/01	7:15	17:00
Pete Lovell	Fleet	10/19/01	6:30	1600
Todd Crockett	Fleet	10/19/01	9:30	1600
John Hunt	demexinair	10/19/01	1120	1540
Kirk Soderberg	Fleet	10/19/01	9:30	16:00

Name	Company	Date	Time/In	Time/Out
Pete Lovell	Fleet	10-22-01	6:30	17:00
Kirk Soderberg	"	"	8:30	"
Todd Crockett	"	"	7:00	16:00
~~Bill MacFarlane~~	"	"		
Don Maynard	JCO	"	7:30	
Dan Redmond	S.t. 6	10/22/01	7:00	16:00
mike Hathaway	S.t. 6	10/22/01	7:00	"
Scott Swanson	St. 6	10/22/01	7:00	"
Brad Ley	S.t. 6	10/22/01	7:00	"
John Rooney	S.t. 6	10/22/01	7:00	"
Warren Davey	JCO	10/22/01	7:15	16:00
Adam Robtoy	JCO	"	"	16:00
Michael Smith	VT DOC	10/22/01	2:00pm	3:00pm
Mike Y	St 6	10/22/01	7:30	900
John Rooney	St Dismantle	"	"	"
Brad Ley	St Dismantle	"	"	"
Pete Lovell	Fleet	"	700	1700
Kirk Soderberg	"	"	"	"
Todd Crockett	"	"	"	"
Don Maynard	JCO	"	7:45	17:00
Warren Davey	"	"	7:00	1530
ADam Robtoy	"	"	7:00	15:30
John Hunt	St Maxim's	10/30/01	10:45	15:00
Laurie Osowski	MHE	10/23/01	13:15	16:30
Bill MacFarlane	Fleet	"	8:00	16:30
ERIC Sylva	"	"	9:30	16:30
Benny Figueroa	"	"	9:30	16:30

Name	Company	Date	Time/In	Time/Out
Jason Decker	Sempra	10/24/01	900	16:15
Joe Atencio	Semprа	"	"	"
Don Maynard	JCO	10/24/01	700	17:00
Adam Robbins	↓		7:10	
Warren Dewey	↓	↓	7:10	
Eric Silvia	Fleet	10/24/01	7:00	17:00
Bienvenido Figueroa	Fleet	10/24/01	700	↓
Pete Lovell	Fleet	↓	0700	↓
Todd Crockett	Fleet		0700	↓
Kirk Soderberg	Fleet	↓	0700	↓
Rob Sweet	St. Griswold	10/24/01	9:30	10:30
John Sterling	"	"	"	10:30
JAY DECKER	Semprа	10/24	10:00 AM	11:00
Lannie Osowski	M & E	10/24/01	07:45	15:45
Don Maynard	JCO	10-25	8:10	
Bienvenido Figueroa	Fleet	10:25	7.00	10:00
Lannie Osowski	M+E	10/25	8:15	11:00
Kirk Soderberg	Fleet	↓	6:30	16:30
Pete Lovell	↓	↓	6:30	↓
TODD Crockett	↓	↓	7:00	↓
Bill MacFarlane	↓	↓	7:00	↓

APPENDIX 3

CONSTRUCTION CHECKLISTS

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
DAILY INSPECTION CHECKLIST

DATE: 10-2-01 INSPECTOR: D. Maynard

WEATHER: 55-65°F 5-10 mph clear WIND & WAVE HEIGHT: 5-10 mph, 0-6"

1) Access Control and Support Features:
Safety Fencing: In-place ✓ ; Secure @ end of workday ✓
Fencing 80% installed

2) Environmental Controls:
Silt Fence/Hay Bales: In-place N/A ; Performing properly
Sediment Curtain: In-place N/A ; Performing properly
Sorbent Boom: In-place N/A ; Performing properly

3) Water Filled Cofferdams: NOT IN place yet
Lake side; Retained water depth: SG3 0.53' Base = 93.07 ℄ = 93.60 Ft NGVD 1988
Seepage: ; Height ; Alignment

Canal side; Retained water depth: SG4 9.38' ref. elev. 86.00 ℄ = 95.38 FT NGVD
Seepage: ; Height ; Alignment

4) By-pass and de-watering pumping systems: 6" John Deere Bypass pump on-site

By-Pass pump; Suction secure/proper depth; NOT installed; Discharge secure; NOT installed
Turbidity at outfall; 6.7 NTU ; at background location; 2.3 NTU
Discharge hose; leakage NA ; signs of wear; NA couplings; NA

De-watering pumps; Suction secure; NOT installed ; Discharge secure; NA
Discharge hose; leakage NA ; signs of wear; NA couplings; NA

5) Elevation check on railroad bridge abutments. Initial measurements performed 10-1-01; see Attached table

6) Inspect bike path crossing for damage. No equipment yet. TOOK as-is photos

7) Construction Activities:
Place Fencing around Bridge work areas
cut Driftwood - pick up debris
removed portions of Beaver Dam
prepared portions of canal agwatam bedding
partially setup bypass pump.

Remedial Action, Phase 1A, Weir Construction
Elevation survey of Railroad and Bike Path Bridge Abutments and water levels
All elevations presented in feet above the 1988 National Geodetic Vertical Datum
relative to the USGS benchmark, rivit RV124, located on the southeast abutment

Date	Inst. Elev	Rod (feet)	Elevation	Location	Change	Guage	Elevation	Time	SG3 turbid	BG turbid
10/01/01	108.80	5.16	103.64	BM-SEcnr	0.00					
		8.68	100.12	NE cnr	0.00					
		3.65	105.15	NW end	0.00					
		8.68	100.12	NW cnr	0.00					
		8.62	100.18	SW cnr	0.00					
		3.38	105.42	Bike SE	0.00					
		5.17	103.63	BM-SEcnr	0.00					
10/02/01			SG4	Canal Minimum		9.33	95.3	04:00 PM		
10/02/01			SG4	Canal Maximum		9.38	95.4	10:30 AM		
10/02/01			SG3	Lake Minimum		0.57	93.6	04:00 PM	4.2	1.1
10/02/01			SG3	Lake Maximum		0.53	93.6	09:55 AM	6.7	2.3

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
DAILY INSPECTION CHECKLIST

DATE: 10-3-01 INSPECTOR: D. Muyneed

WEATHER: 55-70°F Clear WIND & WAVE HEIGHT: 0-10 MPH, 0-1 FT

1) Access Control and Support Features:
Safety Fencing: In-place ✓ Yes ; Secure @ end of workday ✓ Yes
warning signs in-place

2) Environmental Controls:
Silt Fence/Hay Bales: In-place Yes ; Performing properly Yes
Sediment Curtain: In-place NO ; Performing properly N/A
Sorbent Boom: In-place NO ; Performing properly N/A

3) Water Filled Cofferdams: NOT INSTALLED
Lake side; Retained water depth: N/A 563 - 0.50' ELEV = 93.6 FT NGVD 1988
Seepage: N/A ; Height N/A ; Alignment N/A

Canal side; Retained water depth: N/A 564 - 9.10' ELEV = 95.1 FT NGVD 1988
Seepage: N/A ; Height N/A ; Alignment N/A

4) By-pass and de-watering pumping systems:

By-Pass pump; Suction secure/proper depth; NOT INSTALLED; Discharge secure; N/A
Turbidity at outfall; 3.4 NTU ; at background location; 1.0 NTU
Discharge hose; leakage N/A ; signs of wear; NO couplings; OK

De-watering pumps; Suction secure; NOT INSTALLED ; Discharge secure; N/A
Discharge hose; leakage NA ; signs of wear; N/A couplings; N/A

5) Elevation check on railroad bridge abutments. check OK, Less than 0.02 FT Difference (see attached)

6) Inspect bike path crossing for damage. none significant

7) Construction Activities:
set up bypass pump
remove beaver dams
cut trees
mobilize excavator + loader
build ramp - set baggies + silt fence
prepare aggregate bedding

Elevation survey of Railroad and Bike Path Bridge Abutments and water levels
All elevations presented in feet above the 1988 National Geodetic Vertical Datum
relative to the USGS benchmark, rivit RV124, located on the southeast abutment

Date	Inst. Elev	Rod (feet)	Elevation	Location	Change	Guage	Elevation	Time	SG3 turbid	BG turbid
10/01/01	108.80	5.16	103.64	BM-SEcnr	0.00					
		8.68	100.12	NE cnr	0.00					
		3.65	105.15	NW end	0.00					
		8.68	100.12	NW cnr	0.00					
		8.62	100.18	SW cnr	0.00					
		3.38	105.42	Bike SE	0.00					
		5.17	103.63	BM-SEcnr	0.00					
10/02/01			SG4	Canal Minimum		9.33	95.3	04:00 PM		
10/02/01			SG4	Canal Maximum		9.38	95.4	10:30 AM		
10/02/01			SG3	Lake Minimum		0.57	93.6	04:00 PM	4.2	1.1
10/02/01			SG3	Lake Maximum		0.53	93.6	09:55 AM	6.7	2.3
10/03/01	108.85	5.21	103.64	BM-SEcnr	0.00					
		8.72	100.13	NE cnr	0.01					
		3.69	105.16	NW end	0.01					
		8.73	100.12	NW cnr	-0.00					
		8.66	100.19	SW cnr	0.01					
		3.43	105.42	Bike SE	-0.00					
		5.21	103.64	BM-SEcnr	0.01					
			SG4	Canal Minimum		9.0	95.0			
			SG4	Canal Maximum		9.1	95.1	08:20 AM		
			SG3	Lake Maximum		0.5	93.6	09:20 AM	3.4	1.0

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
DAILY INSPECTION CHECKLIST

DATE: 10-5-01 INSPECTOR: D. Maynard

WEATHER: 55°F overcast WIND & WAVE HEIGHT: 10-20 MPH, 0-0.5' waves

1) Access Control and Support Features:
Safety Fencing: In-place ✓; Secure @ end of workday ✓

2) Environmental Controls:
Silt Fence/Hay Bales: In-place ✓; Performing properly ✓
Sediment Curtain: In-place ✓; Performing properly NOT Needed yet
Sorbent Boom: In-place ✓; Performing properly ✓

3) Water Filled Cofferdams:
Lake side; Retained water depth: NONE
Seepage: N/A; Height N/A; Alignment N/A

Canal side; Retained water depth: ~1.5'
Seepage: NONE observed; Height 4.8'; Alignment Good

4) By-pass and de-watering pumping systems: NOT RUNNING, 8" SDR pipe 1/2 full below RR Bridge cofferdam
By-Pass pump; Suction secure/proper depth; ~~not installed~~ Discharge secure; N/A NOT RUNNING
Turbidity at outfall; 9.8 - 11.0 NTU; at background location; 1.3 NTU
Discharge hose; leakage N/A; signs of wear; NO couplings; N/A

De-watering pumps; Suction secure; NOT Installed; Discharge secure; N/A
Discharge hose; leakage N/A; signs of wear; N/A couplings; N/A

5) Elevation check on railroad bridge abutments. 0.01 FT Difference for NW, NE, SE CNR
0.05 FT decrease for SW CNR
OK - NO excavation over TC SURVEY

6) Inspect bike path crossing for damage. NONE

7) Construction Activities:
Install Northern Lake side aguadam - Found Leak
Laid out center Lakeside aguadam
removed beaver dam - again - and dig over ~~from~~ near Baseline
installed silt Fences, booms, aguadam below bridge.

Remedial Action, Phase 1A, Weir Construction

Elevation survey of Railroad and Bike Path Bridge Abutments and water levels

All elevations presented in feet above the 1988 National Geodetic Vertical Datum

relative to the USGS benchmark, rivit RV124, located on the southeast abutment

Date	Inst. Elev	Rod (feet)	Elevation	Location	Change	Guage	Elevation	Time	SG3 turbid	BG turbid
10/01/01	108.80	5.16	103.64	BM-SEcnr	0.00					
		8.68	100.12	NE cnr	0.00					
		3.65	105.15	NW end	0.00					
		8.68	100.12	NW cnr	0.00					
		8.62	100.18	SW cnr	0.00					
		3.38	105.42	Bike SE	0.00					
		5.17	103.63	BM-SEcnr	0.00					
10/02/01			SG4	Canal Minimum		9.33	95.3	04:00 PM		
10/02/01			SG4	Canal Maximum		9.38	95.4	10:30 AM		
10/02/01			SG3	Lake Minimum		0.57	93.6	04:00 PM	4.2	1.1
10/02/01			SG3	Lake Maximum		0.53	93.6	09:55 AM	6.7	2.3
10/03/01	108.85	5.21	103.64	BM-SEcnr	0.00					
		8.72	100.13	NE cnr	0.01					
		3.69	105.16	NW end	0.01					
		8.73	100.12	NW cnr	-0.00					
		8.66	100.19	SW cnr	0.01					
		3.43	105.42	Bike SE	-0.00					
		5.21	103.64	BM-SEcnr	0.01					
			SG4	Canal Minimum		9.0	95.0			
			SG4	Canal Maximum		9.1	95.1	08:20 AM		
			SG3	Lake		0.5	93.6	09:20 AM	3.4	1.0
10/04/01	108.60	4.96	103.64	BM-SEcnr	0.00					
		8.48	100.12	NE cnr	-0.00					
		3.44	105.16	NW end	0.01					
		8.48	100.12	NW cnr	-0.00					
		8.42	100.18	SW cnr	0.00					
		3.18	105.42	Bike SE	-0.00					
		4.96	103.64	BM-SEcnr	0.01					
			SG4	Canal		8.9	94.9	07:20 AM		
			SG3	Lake		0.48	93.6	10:45 AM	1.1	1.6
10/05/01	108.52	4.88	103.64	BM-SEcnr	0.00					
		8.41	100.11	NE cnr	-0.01					
		3.36	105.16	NW end	0.01					
		8.40	100.12	NW cnr	-0.00					
		8.39	100.13	SW cnr	-0.05					
		3.10	105.42	Bike SE	0.00					
		4.89	103.63	BM-SEcnr	0.00					
			SG4	Canal Minimum		8.4	94.4	04:10 PM		
			SG4	Canal Maximum		8.4	94.4	11:35 AM		
			SG3	Lake Minimum		0.45	93.5	03:05 PM	11	
			SG3	Lake Maximum		4.56	97.6	11:05 AM	9.8	1.3

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
DAILY INSPECTION CHECKLIST

DATE: 10/4/01 INSPECTOR: J. Behrsing

WEATHER: 60-65°F - Clear WIND & WAVE HEIGHT: 5-10 mph from South 0-1'

1) Access Control and Support Features:
Safety Fencing: In-place YES ; Secure @ end of workday
SIGNAGE IN-PLACE YES

2) Environmental Controls:
Silt Fence/Hay Bales: In-place YES ; Performing properly YES
Sediment Curtain: In-place No ; Performing properly N/A
Sorbent Boom: In-place No ; Performing properly N/A

3) Water Filled Cofferdams: not installed SG3 - 0.48 = 93.55 1988 datum @ 7:15
Lake side; Retained water depth: NA
Seepage: ; Height ; Alignment

Canal side; Retained water depth: NA SG4 - 8.9 = 94.9 @ 7:20
Seepage: ; Height ; Alignment

4) By-pass and de-watering pumping systems:
No bypass pumping yet.
By-Pass pump; Suction secure/proper depth; ; Discharge secure;
Turbidity at outfall; 1.1 NTU ; at background location; 1.6 NTU
Discharge hose; leakage ; signs of wear; couplings;

De-watering pumps; Suction secure; Not Installed ; Discharge secure;
Discharge hose; leakage ; signs of wear; couplings;

5) Elevation check on railroad bridge abutments.
OK 0.01 max. difference from 10/3/01 readings

6) Inspect bike path crossing for damage.
no damage, swept off dirt @ crossing for equipment after dams placed @ top of ramp.

7) Construction Activities:
Prepare Lake side surface for install of A-dams
Remove Drift wood
start Filling lake side A-dam

Remedial Action, Phase 1A, Weir Construction
Elevation survey of Railroad and Bike Path Bridge Abutments and water levels
All elevations presented in feet above the 1988 National Geodetic Vertical Datum
relative to the USGS benchmark, rivit RV124, located on the southeast abutment

Date	Inst. Elev	Rod (feet)	Elevation	Location	Change	Guage	Elevation	Time	SG3 turbid	BG turbid
10/01/01	108.80	5.16	103.64	BM-SEcnr	0.00					
		8.68	100.12	NE cnr	0.00					
		3.65	105.15	NW end	0.00					
		8.68	100.12	NW cnr	0.00					
		8.62	100.18	SW cnr	0.00					
		3.38	105.42	Bike SE	0.00					
		5.17	103.63	BM-SEcnr	0.00					
10/02/01			SG4	Canal Minimum		9.33	95.3	04:00 PM		
10/02/01			SG4	Canal Maximum		9.38	95.4	10:30 AM		
10/02/01			SG3	Lake Minimum		0.57	93.6	04:00 PM	4.2	1.1
10/02/01			SG3	Lake Maximum		0.53	93.6	09:55 AM	6.7	2.3
10/03/01	108.85	5.21	103.64	BM-SEcnr	0.00					
		8.72	100.13	NE cnr	0.01					
		3.69	105.16	NW end	0.01					
		8.73	100.12	NW cnr	-0.00					
		8.66	100.19	SW cnr	0.01					
		3.43	105.42	Bike SE	-0.00					
		5.21	103.64	BM-SEcnr	0.01					
			SG4	Canal Minimum		9.0	95.0			
			SG4	Canal Maximum		9.1	95.1	08:20 AM		
			SG3	Lake		0.5	93.6	09:20 AM	3.4	1.0
10/04/01	108.60	4.96	103.64	BM-SEcnr	0.00					
		8.48	100.12	NE cnr	-0.00					
		3.44	105.16	NW end	0.01					
		8.48	100.12	NW cnr	-0.00					
		8.42	100.18	SW cnr	0.00					
		3.18	105.42	Bike SE	-0.00					
		4.96	103.64	BM-SEcnr	0.01					
			SG4	Canal		8.9	94.9	07:20 AM		
			SG3	Lake		0.48	93.6	10:45 AM	1.1	1.6

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
DAILY INSPECTION CHECKLIST

DATE: 10-8-01 INSPECTOR: D Maynard

WEATHER: 40-45° partly cloudy WIND & WAVE HEIGHT: 10-30 mph wind, 1-2' waves

1) Access Control and Support Features:
Safety Fencing: In-place ✓ ; Secure @ end of workday ✓

2) Environmental Controls:
Silt Fence/Hay Bales: In-place ✓ ; Performing properly yes
Sediment Curtain: In-place ✓ ; Performing properly not needed yet
Sorbent Boom: In-place ✓ ; Performing properly yes.

3) Water Filled Cofferdams:
Lake side; Retained water depth: NONE - Lake GG-3 Gage 93.5 ft NGVD 1988
Seepage: NONE ; Height Southern end ~3' center ~2.5' ; Alignment OK

Canal side; Retained water depth: SG ~1.8' canal SG-4 Gage 94.36'
Seepage: None except flow through pipe ; Height 4.4' upstream 3.8' downstream 3.0' below I beams ; Alignment Good
(Bottom lowest point ~92.6

4) By-pass and de-watering pumping systems:

By-Pass pump; Suction secure/proper depth; ✓ 3.0 above Bot Discharge secure; Good
Turbidity at outfall; 1.1 NTU ; at background location; 1.8 NTU
Discharge hose; leakage one joint below bridge needs gasket ; signs of wear; NO couplings; OK

De-watering pumps; Suction secure; NOT installed ; Discharge secure; N/A
Discharge hose; leakage N/A ; signs of wear; N/A couplings; N/A

5) Elevation check on railroad bridge abutments. OK, within 0.01'; see attached

6) Inspect bike path crossing for damage. OK

7) Construction Activities:
Install southern Lake side Aquadam
Install middle Lake aquadam
start up + test By pass pump
Empty remaining water from North Dam (Lake)

Remedial Action, Phase 1A, Weir Construction
Elevation survey of Railroad and Bike Path Bridge Abutments and water levels
All elevations presented in feet above the 1988 National Geodetic Vertical Datum
relative to the USGS benchmark, rivit RV124, located on the southeast abutment

Date	Inst. Elev	Rod (feet)	Elevation	Location	Change	Guage	Elevation	Time	SG3 turbid	BG turbid
10/01/01	108.80	5.16	103.64	BM-SEcnr	0.00					
		8.68	100.12	NE cnr	0.00					
		3.65	105.15	NW end	0.00					
		8.68	100.12	NW cnr	0.00					
		8.62	100.18	SW cnr	0.00					
		3.38	105.42	Bike SE	0.00					
		5.17	103.63	BM-SEcnr	0.00					
10/02/01			SG4	Canal Minimum		9.33	95.3	04:00 PM		
10/02/01			SG4	Canal Maximum		9.38	95.4	10:30 AM		
10/02/01			SG3	Lake Minimum		0.57	93.6	04:00 PM	4.2	1.1
10/02/01			SG3	Lake Maximum		0.53	93.6	09:55 AM	6.7	2.3
10/03/01	108.85	5.21	103.64	BM-SEcnr	0.00					
		8.72	100.13	NE cnr	0.01					
		3.69	105.16	NW end	0.01					
		8.73	100.12	NW cnr	-0.00					
		8.66	100.19	SW cnr	0.01					
		3.43	105.42	Bike SE	-0.00					
		5.21	103.64	BM-SEcnr	0.01					
			SG4	Canal Minimum		9.0	95.0			
			SG4	Canal Maximum		9.1	95.1	08:20 AM		
			SG3	Lake		0.5	93.6	09:20 AM	3.4	1.0
10/04/01	108.60	4.96	103.64	BM-SEcnr	0.00					
		8.48	100.12	NE cnr	-0.00					
		3.44	105.16	NW end	0.01					
		8.48	100.12	NW cnr	-0.00					
		8.42	100.18	SW cnr	0.00					
		3.18	105.42	Bike SE	-0.00					
		4.96	103.64	BM-SEcnr	0.01					
			SG4	Canal		8.9	94.9	07:20 AM		
			SG3	Lake		0.48	93.6	10:45 AM	1.1	1.6
10/05/01	108.52	4.88	103.64	BM-SEcnr	0.00					
		8.41	100.11	NE cnr	-0.01					
		3.36	105.16	NW end	0.01					
		8.40	100.12	NW cnr	-0.00					
		8.39	100.13	SW cnr	-0.05					
		3.10	105.42	Bike SE	0.00					
		4.89	103.63	BM-SEcnr	0.00					
			SG4	Canal Minimum		8.4	94.4	04:10 PM		
			SG4	Canal Maximum		8.4	94.4	11:35 AM		
			SG3	Lake Minimum		0.45	93.5	03:05 PM	11	
			SG3	Lake Maximum		4.56	97.6	11:05 AM	9.8	1.3
10/08/01	108.66	5.02	103.64	BM-SEcnr	0.00					
		8.55	100.11	NE cnr	-0.01					
		3.51	105.15	NW end	0.00					
		8.55	100.11	NW cnr	-0.01					
		8.49	100.17	SW cnr	-0.01					
		3.24	105.42	Bike SE	0.00					
		5.02	103.64	BM-SEcnr	0.01					
			SG4	Canal		8.4	94.4	01:40 PM		
			SG3	Lake		0.43	93.5	10:00 AM	1.1	1.8

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
DAILY INSPECTION CHECKLIST

DATE: 10-9-01 INSPECTOR: D. Maynard

WEATHER: 38-40°F clear WIND & WAVE HEIGHT: 0-5 mph, 0.-0.5' waves

1) Access Control and Support Features:
Safety Fencing: In-place ✓; Secure @ end of workday ✓ (Extra Warning / Flagging around excavation too)

2) Environmental Controls:
Silt Fence/Hay Bales: In-place ✓; Performing properly working on slope
Sediment Curtain: In-place ✓; Performing properly ✓
Sorbent Boom: In-place ✓; Performing properly ✓

3) Water Filled Cofferdams:
Lake side; Retained water depth: Zero - Lake elev. 93.4 FNGVD
Seepage: NONE; Height S-3.1, M-3.0, N-2.2 Alignment good
Canal side; Retained water depth: am 1.4-1.7 FT pm 1.8-2.1 FT canal elev 94.0-94.3 FNGVD
Seepage: 1gpm @ 8:30 NONE @ 15:10; Height 4.0 (3' below I Beam) Alignment good

4) By-pass and de-watering pumping systems:

By-Pass pump; Suction secure/proper depth; ✓; Discharge secure; as needed
Turbidity at outfall; 9.4-10.5; at background location; 1.5
Discharge hose; leakage ; signs of wear; couplings; - gasket replaced

De-watering pumps; Suction secure; ✓; Discharge secure; as needed
Discharge hose; leakage NO; signs of wear; NO couplings; good

5) Elevation check on railroad bridge abutments. < 0.01' change - OK

6) Inspect bike path crossing for damage. OK

7) Construction Activities:
Place + Fill Northern Lake Aquadam
excavate @ weir to ~ 90-92 FNGVD
Place + run sump dewatering pumps
stockpile ~ 2 CY soil in poly encapsulated area
located within dammed work area.

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
EARTHWORK INSPECTION CHECKLIST

DATE: 10-9-01 INSPECTOR: DMaynard

FIELD BOOK USCS RA FB#1 PAGE #s 25-36

1) Sub-grade excavation/sub-base placement:

Verify stake-out prior to start of excavation; ✓

Daily verify location, dimension, elevation; ✓

Inspect soils/screen with PID, every ~ 30 yds.; ✓

Sieve analyses (ASTM D422), sampled @ source every 35 yds.; N/A

Moisture Density Relationship (Modified Proctor - ASTM 1557), one test; N/A

Visual inspection of material upon delivery; N/A

In-place compaction (ASTM 1556) two test/8" lift, 95% of optimum density: N/A

2) Native Backfill:

Visual inspection of placement; N/A

3) Rip-Rap Placement:

Inspect delivered stone; N/A

Verify depth of placement, minimum 12"; N/A

Verify final elevation; N/A

Verify dimensions of placement; N/A

Remedial Action, Phase 1A, Well Construction

Elevation survey of Railroad and Bike Path Bridge Abutments and water levels

All elevations presented in feet above the 1988 National Geodetic Vertical Datum

relative to the USGS benchmark, rivit RV124, located on the southeast abutment

Date	Inst. Elev	Rod (feet)	Elevation	Location	Change	Guage	Elevation	Time	SG3 turbid	BG turbid
10/09/01	108.55	4.91	103.64	BM-SEcnr	0.00					
		8.43	100.12	NE cnr	0.00					
		3.40	105.15	NW end	0.00					
		8.43	100.12	NW cnr	0.00					
		8.38	100.17	SW cnr	-0.01					
		3.14	105.41	Bike SE	-0.01					
		4.91	103.64	BM-SEcnr	0.01					
			SG4	Canal Minimum		8.0	94.0	03:40 PM		
			SG4	Canal Maximum		8.3	94.3	07:45 AM		
			SG3	Lake		0.36	93.4	08:15 AM	10.5	1.5

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
DAILY INSPECTION CHECKLIST

DATE: 10-10-01 INSPECTOR: D MAYNARD

WEATHER: 45-65° 0-10 overcast early, then clear WIND & WAVE HEIGHT: 0-10 mph, increasing to 15 mph at end of Day 0-0.5' waves

1) Access Control and Support Features:
Safety Fencing: In-place ✓; Secure @ end of workday ✓

2) Environmental Controls:
Silt Fence/Hay Bales: In-place ✓; Performing properly generally
Sediment Curtain: In-place ✓; Performing properly silt at up-tower
Sorbent Boom: In-place ✓ added sweeps; Performing properly yes-

3) Water Filled Cofferdams:
Lake side; Retained water depth: NONE
Seepage: NONE; Height 5.3', 13.0', N2.3' Alignment OK

Canal side; Retained water depth: ~12"
Seepage: none; Height 3' Below 1 Berm Alignment good

4) By-pass and de-watering pumping systems:

By-Pass pump; Suction secure/proper depth; 2.7' A Bottom 1.3' BWS; Discharge secure; ✓
Turbidity at outfall; (Lake, not pumping) 3.9; at background location; 6.4 NTU
Discharge hose; leakage NO; signs of wear; NO couplings; OK

De-watering pumps; Suction secure; OK; Discharge secure; OK
Discharge hose; leakage NO; signs of wear; NO couplings; OK

5) Elevation check on railroad bridge abutments. < 0.01' change, OK

6) Inspect bike path crossing for damage. OK

7) Construction Activities:
Excavate WEIR FOOTING TO Approximate SIZE + grade
stockpile SOIL with PID > 3.0 in plexencapsulated pile
Added second SILT CURTAIN + SWEEPS
installed + operated dewatering pumps
ran bypass pump ~ 1 hr. to bring level to 9.0', off rest of Day

Remedial Action, Phase 1A, Weir Construction
Elevation survey of Railroad and Bike Path Bridge Abutments and water levels
All elevations presented in feet above the 1988 National Geodetic Vertical Datum
relative to the USGS benchmark, rivit RV124, located on the southeast abutment

Date	Inst. Elev	Rod (feet)	Elevation	Location	Change	Guage	Elevation	Time	SG3 turbid	BG turbid
10/10/01	108.62	4.98	103.64	BM-SEcnr	0.00					
		8.50	100.12	NE cnr	0.00					
		3.46	105.16	NW end	0.01					
		8.50	100.12	NW cnr	0.00					
		8.45	100.17	SW cnr	-0.01					
		3.20	105.42	Bike SE	0.00					
		4.98	103.64	BM-SEcnr	0.01					
			SG4	Canal Minimum		8.0	94.0	08:10 AM		
			SG4	Canal Maximum		8.0	94.0	04:20 PM		
			SG3	Lake		0.28	93.4	04:10 PM	3.9	6.4

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
EARTHWORK INSPECTION CHECKLIST

DATE: 10-10-01 INSPECTOR: D Maynard

FIELD BOOK 37-43 PSCS RA BK#1 PAGE #s 37-43

1) Sub-grade excavation/sub-base placement:

Verify stake-out prior to start of excavation; checked rough Layout

Daily verify location, dimension, elevation; excavation ready at end of day for final grading

Inspect soils/screen with PID, every ~ 30 yds.; checked 13 samples reported >3ppmv headspace to polyencapsulated stockpile (estimate total CY)

Sieve analyses (ASTM D422), sampled @ source every 35 yds.; N/A

Moisture Density Relationship (Modified Proctor - ASTM 1557), one test; N/A

Visual inspection of material upon delivery; N/A

In-place compaction (ASTM 1556) two test/8" lift, 95% of optimum density: N/A

2) Native Backfill:

Visual inspection of placement; N/A

3) Rip-Rap Placement:

Inspect delivered stone; N/A

Verify depth of placement, minimum 12"; N/A

Verify final elevation; N/A

Verify dimensions of placement; N/A

JB
PM

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
DAILY INSPECTION CHECKLIST

DATE: 10/11-01 INSPECTOR: Maynard

WEATHER: 50-70°F partly cloudy WIND & WAVE HEIGHT: 10-15 MPH, 0-0.5' waves

1) Access Control and Support Features:
Safety Fencing: In-place ✓; Secure @ end of workday ✓

2) Environmental Controls:
Silt Fence/Hay Bales: In-place ✓; Performing properly ✓
Sediment Curtain: In-place ✓ Both curtains; Performing properly second curtain (East) OK
Sorbent Boom: In-place ✓; Performing properly ✓

3) Water Filled Cofferdams:
Lake side; Retained water depth: NONE
Seepage: Leak from N Dam, S. end < 0.5 GPM; Height 5-3.5', M-3.0', N-1.7' (Leak in N Dam Fixed); Alignment Good
Canal side; Retained water depth: ~1.0' @ 14:40 8.10 on 564 @ 14:25, 94.1 FNGVD
Seepage: NONE; Height 3' Below Ibeam ~4.4' high Alignment Good

4) By-pass and de-watering pumping systems: OK

By-Pass pump; Suction secure/proper depth; Not used; Discharge secure; N/A
Turbidity at outfall; 3.3 NTU; at background location; 1.6 NTU
Discharge hose; leakage N/A; signs of wear; N/A couplings; N/A

De-watering pumps; Suction secure; Yes; Discharge secure; OK
Discharge hose; leakage NO; signs of wear; NO couplings; OK

5) Elevation check on railroad bridge abutments. OK - < 0.01 FT change From Oct 1, 2001

6) Inspect bike path crossing for damage.

7) Construction Activities:
Lay out stakes for concrete base
Prepare final grade to 88.5 FNGVD 1988
place fabric below and on sides of excavation
test tools w/ PID and polyencapsulate ~4 CY
place sub-base gravel, compact, and test

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
EARTHWORK INSPECTION CHECKLIST

DATE: 10-11-01 INSPECTOR: Don Maynard

FIELD BOOK PSCS RA FB#1 PAGE #s 40-54

1) Sub-grade excavation/sub-base placement:

Verify stake-out prior to start of excavation; ✓ and re-checked after subbase placement

Daily verify location, dimension, elevation; ✓ and rechecked, TWICE

Inspect soils/screen with PID, every ~ 30 yds.; ✓ seven tests, N 4CY polyencapsulated

Sieve analyses (ASTM D422), sampled @ source every 35 yds.; collected by VT Testing

Moisture Density Relationship (Modified Proctor - ASTM 1557), one test; Performed prior to start of WORK

Visual inspection of material upon delivery; ✓ upon Delivery, 1 of TRUCK upon placement, remaining 6 (six) trucks

In-place compaction (ASTM 1556) two test/8" lift, 95% of optimum density: 3 tests 1st LIFT (N1.5) = 89.2, 89.6, 91.2%, second LIFT N0.5; tests = 90.8%, 91.9%, 92.1%

2) Native Backfill: N/A

Visual inspection of placement; N/A

3) Rip-Rap Placement:

Inspect delivered stone; N/A

Verify depth of placement, minimum 12"; N/A

Verify final elevation; N/A

Verify dimensions of placement; N/A

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
DAILY INSPECTION CHECKLIST

DATE: 10-12-01 INSPECTOR: D. Maynard

WEATHER: 55-65°F overcast WIND & WAVE HEIGHT: 0-5 mph wind; 0.5' waves

1) Access Control and Support Features:
Safety Fencing: In-place ✓ ; Secure @ end of workday ✓

2) Environmental Controls:
Silt Fence/Hay Bales: In-place ✓ ; Performing properly ✓
Sediment Curtain: In-place (2nd eastern curt.) ; Performing properly ✓
Sorbent Boom: In-place ✓ ; Performing properly ✓

3) Water Filled Cofferdams:
Lake side; Retained water depth: None SG-3=0.35 Lake elev. = 93.42 NGVD
Seepage: NONE ; Height NE ; Alignment ✓

Canal side; Retained water depth: 10-12" SG4 = 3.16 @ 9:30, 3.03 @ 12:30 = 94.2 to 94.0 FALL
Seepage: <1/4 cup/min. @ pipe ; Height 3.0' Below Top ~4.4' High ; Alignment ✓

4) By-pass and de-watering pumping systems:

By-Pass pump; Suction secure/proper depth; ✓ ; Discharge secure; ✓
Turbidity at outfall; 7.0 ; at background location; 0.9 @ 9:50
Discharge hose; leakage NO ; signs of wear; NO couplings; OK

De-watering pumps; Suction secure; ✓ ; Discharge secure; as needed
Discharge hose; leakage NO ; signs of wear; NO couplings; NO

5) Elevation check on railroad bridge abutments. within 0.01' of act. 1 readings OK

6) Inspect bike path crossing for damage. minor scratches <0.01'

7) Construction Activities:
Keep excavation Dewatered - Pump Canal H2O to Lake
Place protective shoring on south end and NE CORNER.
FINAL exth compaction with vibrator.
survey + set final grade
FORM WEIR BASE, tie 1st layer re-bar and
1/2 second layer. - "continuously" monitor PID readings
in Breathing zone:
all less than 1.0 ppmv

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
EARTHWORK INSPECTION CHECKLIST

DATE: 10/12/01 INSPECTOR: D Maynard

FIELD BOOK PSCS RA FB#1 PAGE #s 35-59

1) Sub-grade excavation/sub-base placement:

Verify stake-out prior to start of excavation; ~~verify~~ N/A

Daily verify location, dimension, elevation; verify Final sub-basegrade = or < 0.1 FT below specs,

Inspect soils/screen with PID, every ~ 30 yds.; N/A

Sieve analyses (ASTM D422), sampled @ source every 35 yds.; N/A

Moisture Density Relationship (Modified Proctor - ASTM 1557), one test; N/A

Visual inspection of material upon delivery; N/A

In-place compaction (ASTM 1556) two test/8" lift, 95% of optimum density: N/A

2) Native Backfill:

Visual inspection of placement; N/A

3) Rip-Rap Placement:

Inspect delivered stone; N/A

Verify depth of placement, minimum 12"; N/A

Verify final elevation; N/A

Verify dimensions of placement; N/A

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
DAILY INSPECTION CHECKLIST

DATE: 10-15-01 INSPECTOR: Don Maynard

WEATHER: 60-65°F partly cloudy + showers WIND & WAVE HEIGHT: 0-15 mph wind / 0-1.0' wave

1) Access Control and Support Features:
Safety Fencing: In-place ✓; Secure @ end of workday Left FLEET TO maintain water levels in excavation to 20:00

2) Environmental Controls:
Silt Fence/Hay Bales: In-place ✓; Performing properly ✓
Sediment Curtain: In-place (Floating curtain); Performing properly ✓
Sorbent Boom: In-place ✓; Performing properly ✓

3) Water Filled Cofferdams:
Lake side; Retained water depth: NONE - Lake level < 0.2 on 563, < 93.3 ENGVD
Seepage: NONE; Height N-1.9', M-2.5', S-3.5'; Alignment OK

Canal side; Retained water depth: 12-15"
Seepage: < ¼ cup/min @ pipe; Height 3.0' Below I-Beam Alignment OK

4) By-pass and de-watering pumping systems:
By-Pass pump; Suction secure/proper depth; ✓3.2' A. Bottom, 1.3' BWS Discharge secure; ✓
Turbidity at outfall; 5.2 From pipe; at background location; 1.1 NTU
Discharge hose; leakage NO; signs of wear; NO couplings; OK

De-watering pumps; Suction secure; ✓; Discharge secure; OK
Discharge hose; leakage NO; signs of wear; NO couplings; OK

5) Elevation check on railroad bridge abutments. OK, < 0.01' From 10/1/01

6) Inspect bike path crossing for damage.

7) Construction Activities:
Finish re-enforcement for Base (and vertical re-ent. for stem)
Place concrete for Base.

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
CONCRETE FORM-WORK INSPECTION CHECKLIST

DATE: 10-15-01 INSPECTOR: Don Maynard

FIELD BOOK PSCSRA FB#1 PAGE #s 60-66

1) Footing form-work

Verify location (± 3") and elevations (± 1"); Elevations -OK - CTR SLUICE OK - Location OK

Verify dimensions/thickness (± 1"); - Base Length = 51.0' OK, Width - 10' OK after ted Back

2) Footing reinforcing steel

Inspect steel; clean, correct bar size; #4, #5, #6 in base OK / #7 in stem OK, wash steel / before placement

Steel placement dimensions (± ½"): OK 12" ;

4" Minimum concrete cover (½") 3½-4" OK (cut tails on east side before placement)

Splice length (± 1"); 24"+, some longer - OK ; # of ties per splice (2 min.) ✓

1) Weir stem form-work

Verify location (± 3") and elevations (±½"); N/A - { steel CTR SLUICE OK, ENDS OK - SLUICE, crest, abutments OK }

Verify dimensions/thickness (± 1"); N/A, Stem set 1" From south end of footing 12" From N. End of Footing - OK

2) Weir stem reinforcing steel

Inspect steel; clean, correct bar size; #7 steel OK, #6 not placed yet

Steel placement dimensions (± ½"): ✓ ;

4" Minimum concrete cover (½") ✓

Splice length (± 1"); N/A ; # of ties per splice (2 min.) ✓

Stop-log guide, proper placement; N/A

Pipe sleeves, proper placement; N/A

VMI

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
DAILY INSPECTION CHECKLIST

DATE: 10-16-01 INSPECTOR: Don Maynard

WEATHER: 50-65°F Partly Cloudy WIND & WAVE HEIGHT: 0-10 MPH, 0-0.5' waves

1) Access Control and Support Features:
Safety Fencing: In-place ✓ ; Secure @ end of workday ✓

2) Environmental Controls:
Silt Fence/Hay Bales: In-place ✓ ; Performing properly ✓
Sediment Curtain: In-place ✓ ; Performing properly ✓
Sorbent Boom: In-place ✓ ; Performing properly ✓

3) Water Filled Cofferdams:
Lake side; Retained water depth: NONE - Lake Level <0.2' on SG3, <93.3 F NGVD
Seepage: NONE ; Height N-1.8, M-3.0, S-3.5 ; Alignment OK

Canal side; Retained water depth: 1.0'
Seepage: < 1/4 cup/min ; Height 3' Below [illegible] N 4.4' High Alignment good

4) By-pass and de-watering pumping systems: Bypass pump not used

By-Pass pump; Suction secure/proper depth; [illegible] 1.4' BWS; Discharge secure; ✓
Turbidity at outfall; (2C'W of SG3) 9.4 ; at background location; 4.3 ntu
Discharge hose; leakage N/A ; signs of wear; NO couplings; OK

De-watering pumps; Suction secure; ✓ ; Discharge secure; OK
Discharge hose; leakage @ pump only ; signs of wear; NO couplings; OK

5) Elevation check on railroad bridge abutments. OK, <0.01' From 10/1/01 reading

6) Inspect bike path crossing for damage. OK

7) Construction Activities:
Place re-enforcement + Form stem
screen excavated soil for riprap

4000 STG/TY1/FA/DARA-65

TICKET 611461

10/15/01 Mix No. 196 7.50 yds Truck 97 Plant 1

CON.SAND	10950*	(1.00/ 1.00)	(3.70)	GF/TY1	4140	(1.00/ 1.00)	MICROAIR 22
3/4 STG	23650		(0.70)	FLY ASH	4550		DARA-65 276
							POLARSET 0

WATER 214/1779 (1.00/ 1.00)
MAX WATER285.0/ 9.9 TRIM 1.50

TARE AGG1 50 50 CMT 0 50 WAT 1 6

TIME : 14:47:41

10/15/01 7.50 0 0 196 96 1 14:32:25

4000 STG/TY1/FA/DARA-65

TICKET 611460

10/15/01 Mix No. 196 7.50 yds Truck 96 Plant 1

CON.SAND	10750	(1.00/ 1.00)	(3.70)	GF/TY1	4090	(1.00/ 1.00)	MICROAIR 22
3/4 STG	23650		(0.70)	FLY ASH	4630*		DARA-65 276
							POLARSET 0

WATER 209/1741 (1.00/ 1.00)
MAX WATER285.0/ 14.5 TRIM 1.00

TARE AGG1 0 50 CMT 0 -180 WAT 1 5

TIME : 14:32:25

10/15/01 7.50 0 0 196 68 1 14:01:48

4000 STG/TY1/FA/DARA-65

TICKET 611456

10/15/01 Mix No. 196 7.50 yds Truck 68 Plant 1

CON.SAND	10800*	(1.00/ 1.00)	(3.70)	GF/TY1	4090	(1.00/ 1.00)	MICROAIR 22
3/4 STG	23650		(0.70)	FLY ASH	4620		DARA-65 276
							POLARSET 0

WATER 203/1687 (1.00/ 1.00)
MAX WATER285.0/ 21.0 TRIM 0.00

TARE AGG1 50 50 CMT -10 10 WAT 3 6

TIME : 14:01:48

10/15/01 7.50 0 0 196 67 1 14:21:06

4000 STG/TY1/FA/DARA-65

TICKET 611458

10/15/01 Mix No. 196 7.50 yds Truck 67 Plant 1

CAL SAND	10750 (1.00/ 1.00)	(3.70) GF/TY1	4090 (1.00/ 1.00)	MICROAIR	22
#4 STG	23650	(0.70) FLY ASH	4610	DARA-65	276
				POLARSET	0

WATER 195/1629 (1.00/ 1.00)
MAX WATER285.0/ 27.9 TRIM -1.00

TARE AGG1 50 50 CMT 0 -30 WAT 1 6

TIME : 14:21:06

4827#

TIME : 13:50:35

TARE AGG1 50 50 CMT -30 10 WAT 2 6

WATER 203/1689 (1.00/ 1.00)
MAX WATER285.0/ 20.7 TRIM 0.00

4000 STG/TY1/FA/DARA-65

10/15/01 Mix No. 196 7.50 yds Truck 77 Plant 1

CAL SAND	10900*(1.00/ 1.00)	(3.70) GF/TY1	4090 (1.00/ 1.00)	MICROAIR	21
#4 STG	23650	(0.70) FLY ASH	4600	DARA-65	275
				POLARSET	0

+2 cmt

TICKET 611454

10/15/01 7.50 0 0 196 77 1 13:50:35

1-0570-1
WEIR
COB
DMM

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
DAILY INSPECTION CHECKLIST

DATE: 10-17-01 INSPECTOR: Don Maynard

WEATHER: 40-55°F cloudy, showers WIND & WAVE HEIGHT: 10-20 MPH, 1.0-1.5' waves

1) Access Control and Support Features:
Safety Fencing: In-place ✓; Secure @ end of workday ✓

2) Environmental Controls:
Silt Fence/Hay Bales: In-place ✓; Performing properly ✓
Sediment Curtain: In-place ✓; Performing properly ✓
Sorbent Boom: In-place ✓; Performing properly ✓

3) Water Filled Cofferdams:
Lake side; Retained water depth: NONE, SG3 stage <0.20' <93.3 FNGVD.
Seepage: NONE; Height N=4.7', M=3.0', S=3.4'; Alignment OK

Canal side; Retained water depth: ~1.0'
Seepage: <1/4 cup/min; Height 3' B.I Beam ~4.4' High.; Alignment good

4) By-pass and de-watering pumping systems:
By-Pass pump; Suction secure/proper depth; 1.3 FBWS, 3.0' above Bottom; Discharge secure; OK
Turbidity at outfall; pipe 5.1 NTU; at background location; 4.1 NTU
Discharge hose; leakage NO; signs of wear; NO couplings; OK

De-watering pumps; Suction secure; OK; Discharge secure; OK
Discharge hose; leakage @ pump only; signs of wear; no couplings; OK

5) Elevation check on railroad bridge abutments. OK, within .01' of 10/1/01 reading see attached summary.

6) Inspect bike path crossing for damage. OK

7) Construction Activities:
strip forms from footing
screen soil for RIPRAP
Move ~ 70-75 CY soil to Area 3 (including ~30-35 CY polyencapsulated soil)
FORM stem & complete re-enforcement.
excavate for rip rap

Remedial Action, Phase 1A, Weir Construction
Elevation survey of Railroad and Bike Path Bridge Abutments and water levels
All elevations presented in feet above the 1988 National Geodetic Vertical Datum
relative to the USGS benchmark, rivit RV124, located on the southeast abutment

Date	Inst. Elev	Rod (feet)	Elevation	Location	Change	Guage	Elevation	Time	SG3 turbid	BG turbid
10/11/01	108.67	5.03	103.64	BM-SEcnr	0.00					
		8.55	100.12	NE cnr	0.00					
		3.51	105.16	NW end	0.01					
		8.55	100.12	NW cnr	0.00					
		8.50	100.17	SW cnr	-0.01					
		3.25	105.42	Bike SE	0.00					
		5.03	103.64	BM-SEcnr	0.01					
			SG4	Canal		8.1	94.1	08:50 AM		
			SG3	Lake		0.23	93.3	04:50 PM	3.3	1.6
10/12/01	108.53	4.89	103.64	BM-SEcnr	0.00					
		8.41	100.12	NE cnr	0.00					
		3.37	105.16	NW end	0.01					
		8.41	100.12	NW cnr	0.00					
		8.35	100.18	SW cnr	0.00					
		3.11	105.42	Bike SE	0.00					
		4.89	103.64	BM-SEcnr	0.01					
			SG4	Canal Minimum		8.0	94.0	12:30 PM		
			SG4	Canal Maximum		8.2	94.2	09:30 AM		
			SG3	Lake		0.35	93.4	09:50 AM	7	0.9
10/15/01	108.67	5.03	103.64	BM-SEcnr	0.00					
		8.54	100.13	NE cnr	0.01					
		3.51	105.16	NW end	0.01					
		8.55	100.12	NW cnr	0.00					
		8.49	100.18	SW cnr	0.00					
		3.25	105.42	Bike SE	0.00					
		5.03	103.64	BM-SEcnr	0.01					
			SG4	Canal Minimum		8.2	94.2	10:35 AM		
			SG4	Canal Maximum		8.2	94.2	07:30 AM		
			SG3	Lake		<0.2	<93.3	08:25 AM	5.2	1.1
10/16/01	108.71	5.07	103.64	BM-SEcnr	0.00					
		8.56	100.15	NE cnr	0.03					
		3.56	105.15	NW end	0.00					
		8.59	100.12	NW cnr	0.00					
		8.54	100.17	SW cnr	-0.01					
		3.30	105.41	Bike SE	-0.01					
		5.08	103.63	BM-SEcnr	0.00					
			SG4	Canal Minimum		8.1	94.1	09:00 AM		
			SG4	Canal Maximum		8.1	94.1	02:35 PM		
			SG3	Lake		<0.2	<93.3	04:50 PM	9.4	4.3
10/17/01	108.73	5.09	103.64	BM-SEcnr	0.00					
		8.61	100.12	NE cnr	0.00					
		3.58	105.15	NW end	0.00					
		8.61	100.12	NW cnr	0.00					
		8.55	100.18	SW cnr	0.00					
		3.32	105.41	Bike SE	-0.01					
		5.09	103.64	BM-SEcnr	0.01					
			SG4	Canal Minimum		8.0	94.0	10:25 AM		
			SG4	Canal Maximum		8.1	94.1	07:45 AM		
			SG3	Lake		<0.2	<93.3	08:15 AM	5.1	4.1

DM

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
DAILY INSPECTION CHECKLIST

DATE: 10-18-01 INSPECTOR: Don Maynard

WEATHER: 40-50° Partly Cloudy-Clearing Later WIND & WAVE HEIGHT: 0-25 mph wind; ~1.0' waves

1) Access Control and Support Features:
Safety Fencing: In-place ✓ ; Secure @ end of workday ✓

2) Environmental Controls:
Silt Fence/Hay Bales: In-place ✓ ; Performing properly ✓ East Side Failed @ Low spot ~1/2 cy sand released
Sediment Curtain: In-place ✓ ; Performing properly ✓
Sorbent Boom: In-place ✓ ; Performing properly ✓

3) Water Filled Cofferdams:
Lake side; Retained water depth: NONE - 563 <0.2' Lake < 93.3 FNGVD
Seepage: NONE ; Height N-0 TO 0.7' M-2.8', S-3.4' ; Alignment OK

Canal side; Retained water depth: 0.9-1.0' - 564 WL 8.02' @ 12:00 = 94.0 FNGVD
Seepage: NONE ; Height 3.1' Below Iberm ~4.3' High Alignment OK

4) By-pass and de-watering pumping systems:

By-Pass pump; Suction secure/proper depth; ✓ 1.3 FBWS 3.0' A. Bottom; Discharge secure; ✓
Turbidity at outfall; 7.3 @ 11:55 ; at background location; 7.1
Discharge hose; leakage NO ; signs of wear; NO couplings; OK

De-watering pumps; Suction secure; ✓ ; Discharge secure; OK
Discharge hose; leakage @ pump only ; signs of wear; NO couplings; OK

5) Elevation check on railroad bridge abutments. OK - identical TO 10-1-01 readings

6) Inspect bike path crossing for damage.

7) Construction Activities:
Place gravel subbase material on west side of Footing
continue Forming + re-rod placement For stem

cc File
JB
DMM

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
CONCRETE FORM-WORK INSPECTION CHECKLIST

DATE: 10-18-01 + 10/19/01 INSPECTOR: Don Maynard

FIELD BOOK PSCS RA FB#1 PAGE #s 76-93

1) Footing form-work

Verify location (± 3") and elevations (± 1"); N/A

Verify dimensions/thickness (± 1"); N/A

2) Footing reinforcing steel

Inspect steel; clean, correct bar size; N/A

Steel placement dimensions (± ½"): N/A ;

4" Minimum concrete cover (½") N/A

Splice length (± 1"); N/A ; # of ties per splice (2 min.) N/A

1) Weir stem form-work

Verify location (± 3") and elevations (±½"); OK south abutment extended 2" west-east base width = 4'10" instead of spec. 4'9" Elevation of 96.5' crest OK

Verify dimensions/thickness (± 1"); OK - see note above

2) Weir stem reinforcing steel

Inspect steel; clean, correct bar size; #7 Bar splice horizontal used for final #7 vertical on south end. OK, #5 Bar stirrups used for upper 0.5' of abutment steel → see Attached Sketch

Steel placement dimensions (± ½"): OK - 3 Bars up to 9½" separation instead of 8" specified (see pp 76-77)

4" Minimum concrete cover (½") OK - one Bar on top w/ 3" cover - Bars on top of sluice ~ 5¼" cover south wall w/ 5-6" cover - Bars on west side Base → 5½" cover - Bars on west side top → 4½" cover

Splice length (± 1"); All splices 2' or greater ; # of ties per splice (2 min.) ✓

Stop-log guide, proper placement; Plumb + Level @ 94.48 ENG-UP ± 0.01'

Pipe sleeves, proper placement; south crest sleeves placed 5.1' apart, 0.83' from ends
North crest sleeves placed ~5.08' apart, 1.25' from sluice, 0.5' from N. Abutment

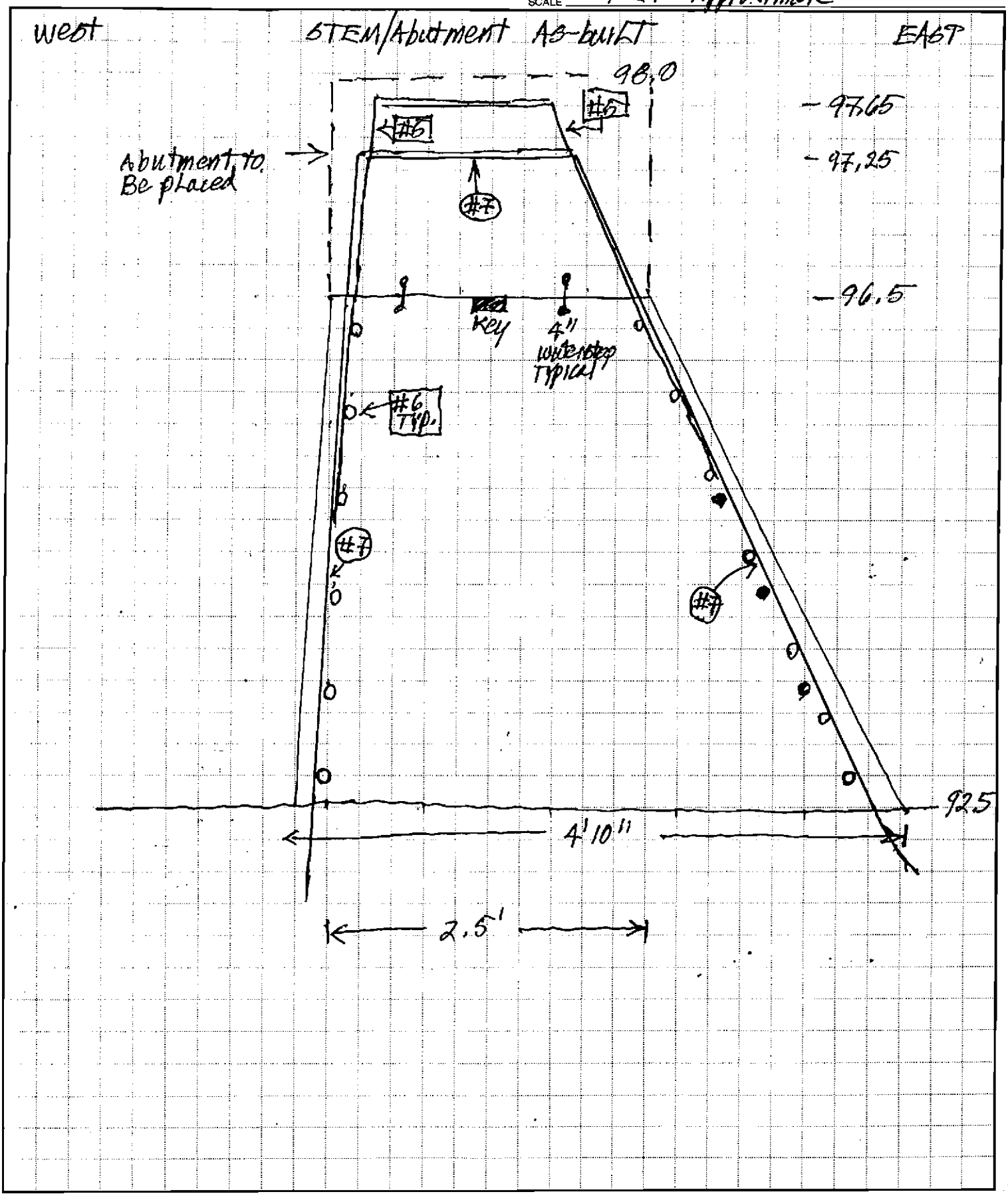
Reviewed By:

MONTPELIER, VERMONT 05602
(802) 229-4600

CALCULATED BY [illegible] DATE 10-19-21

CHECKED BY _____ DATE _____

SCALE ~ 1" = 1' Approximate



V-D
DMM

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
DAILY INSPECTION CHECKLIST

DATE: 10-19-01 INSPECTOR: Don Maynard

WEATHER: 40-60°F Partly Cloudy WIND & WAVE HEIGHT: 5-25 mph wind, 1' waves

1) Access Control and Support Features:
Safety Fencing: In-place ✓; Secure @ end of workday ✓

2) Environmental Controls:
Silt Fence/Hay Bales: In-place ✓; Performing properly OK
Sediment Curtain: In-place ✓; Performing properly ✓
Sorbent Boom: In-place ✓; Performing properly OK

3) Water Filled Cofferdams: NONE
Lake side; Retained water depth: 2.0 on SG3 - 293.1 FMSL
Seepage: NONE; Height N→0-0.4' M→2.7', S→3.4' ; Alignment OK
Canal side; Retained water depth: ~1'
Seepage: NONE; Height 4.3' (3.1 B.B.); Alignment OK

4) By-pass and de-watering pumping systems:

By-Pass pump; Suction secure/proper depth; NOT USED 1.3 FB@3.0 FAB Discharge secure; ✓
Turbidity at outfall; (Lake 30' west SG3) 2.4 at background location; 1.9 ntu
Discharge hose; leakage N/A; signs of wear; NO couplings; OK

De-watering pumps; Suction secure; ✓; Discharge secure; OK
Discharge hose; leakage NO; signs of wear; NO couplings; OK

5) Elevation check on railroad bridge abutments. OK, < 0.01' change from 10-1-01 readings

6) Inspect bike path crossing for damage. NONE

7) Construction Activities:
Placed stem concrete
Backfilled ends of footing with 3/4" flat mix gravel (canal side)

10/19/01 6.25 0 0 196 75 1 12:37:44

4000 STG/TY1/FA/DARA-65

TICKET 611683

10/19/01 Mix No. 196 6.25 yds Truck 75 Plant 1

CON.SAND	8900 (1.00/ 1.00)	(3.00) GF/TY1	3410 (1.00/ 1.00)	MICRDAIR	17		
3/4 STG	19650	(0.50) FLY ASH	3830	DARA-65	230		
				POLARSET	0		

WATER 183/1524 (1.00/ 1.00)

MAX WATER237.5/ 13.0 TRIM 1.00

TARE AGG1 0 50 CMT 20 10 WAT 0 4

TIME : 12:37:44

TIME : 12:18:19

TARE AGG1 50 50 CMT -50 -90 WAT 0 4

MAX WATER266.0/ 7.5

WATER 213/1774 (1.00/ 1.00)

TRIM 2.00

POLARSET 0

DARA-65 259#

MICRDAIR 19

3/4 STG 22050 (0.50) FLY ASH 4310

CON.SAND 9950 (1.00/ 1.00) (3.00) GF/TY1 3820 (1.00/ 1.00)

10/19/01 Mix No. 196 7.00 yds Truck 74 Plant 1

4000 STG/TY1/FA/DARA-65

TICKET 611680

10/19/01 7.00 0 0 196 74 1 12:18:19

10/19/01 7.00 0 0 196 75 1 11:09:54

4000 STG/TY1/FA/DARA-65

TICKET 611674

10/19/01	Mix No. 196	7.00 yds	Truck 75	Plant 1			
CON.SAND	9950 (1.00/ 1.00)	(3.00) GF/TY1	3820 (1.00/ 1.00)		MICRODAIR	20	
3/4 STG	22000	(0.50) FLY ASH	4240		DARA-65	258	
					POLARSET	0	

WATER 207/1727 (1.00/ 1.00)
MAX WATER266.0/ 13.2 TRIM 1.00

TARE AGG1 50 50 CMT 0 -150 WAT -1 3

TIME : 11:09:54

10/19/01 7.00 0 0 196 84 1 11:38:07

4000 STG/TY1/FA/DARA-65

TICKET 611677

10/19/01	Mix No. 196	7.00 yds	Truck 84	Plant 1			
CON.SAND	9950 (1.00/ 1.00)	(3.00) GF/TY1	3820 (1.00/ 1.00)		MICRODAIR	20	
3/4 STG	22000	(0.50) FLY ASH	4320*		DARA-65	259*	
					POLARSET	0	

WATER 213/1775 (1.0/ 1.00)
MAX WATER266.0/ 7.4 TRIM 2.00

TARE AGG1 0 50 CMT -40 -50 WAT -1 4

TIME : 11:38:07

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
DAILY INSPECTION CHECKLIST

DATE: 10-22-01 INSPECTOR: Don Maynard

WEATHER: ~40°F clear WIND & WAVE HEIGHT: 0-5 Mph wind, 0.5' waves

1) Access Control and Support Features:
Safety Fencing: In-place ✓ ; Secure @ end of workday ✓

2) Environmental Controls:
Silt Fence/Hay Bales: In-place OK ; Performing properly OK
Sediment Curtain: In-place OK ; Performing properly OK
Sorbent Boom: In-place OK ; Performing properly OK

3) Water Filled Cofferdams:
Lake side; Retained water depth: NONE Lake below 93.3 FNGVD @ 9:10
Seepage: ; Height ; Alignment
Emptied Dams - removed north Dam
Canal side; Retained water depth: 1.2', canal @ 8.25 = 94.25 @ 8:00, 8.04, 94.07 @ 14:20
Seepage: none ; Height 4.3' ; Alignment OK

4) By-pass and de-watering pumping systems:

By-Pass pump; Suction secure/proper depth; OK 3.2' ABS 1.3' BWS ; Discharge secure; OK
Turbidity at outfall; 5.3 NTU @ pipe ; at background location; 4.5 NTU
Discharge hose; leakage no ; signs of wear; No couplings; OK

De-watering pumps; Suction secure; OK ; Discharge secure; OK
Discharge hose; leakage @ pump only ; signs of wear; NO couplings; OK

5) Elevation check on railroad bridge abutments. OK, <0.01' Difference From 10-1-01 reading

6) Inspect bike path crossing for damage. OK

7) Construction Activities:
Place concrete Abutments
Strip stem Forms, set Abutment FORMS
empty Lake aquadams + roll up north Dam
Vibrate compact fill east of weir (3/4" plant mix)
Place fill east of weir (onsite soils)

J:\PROJECTS\1-0870-1\Remedial Action Workplan\constructioninspectionchecklist.wpd September 21, 2001 J-b

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
CONCRETE FORM-WORK INSPECTION CHECKLIST

DATE: 10-22-01 INSPECTOR: Don Maynard

FIELD BOOK PSCS RA FB#1 PAGE #s 98 - 102

1) Footing form-work

Verify location (± 3") and elevations (± 1"); N/A

Verify dimensions/thickness (± 1"); N/A

2) Footing reinforcing steel

Inspect steel; clean, correct bar size; N/A

Steel placement dimensions (± ½"): N/A ;

4" Minimum concrete cover (½") N/A

Splice length (± 1"); N/A ; # of ties per splice (2 min.) N/A

1) Weir stem form-work – Abutments

Verify location (± 3") and elevations (±½"); Location ok elevation ± 0.03'

Verify dimensions/thickness (± 1"); ± 1/4" ok (note South Abutment Length = 5'2")

2) Weir stem reinforcing steel

Inspect steel; clean, correct bar size; #6 ok, #5 stirrups per 10/19/01 report, #7 temperature steel, 2 on sides 2 on top

Steel placement dimensions (± ½"): ok - 8½" top, ~5½" sides

4" Minimum concrete cover (½") ok

Splice length (± 1"); ok ; # of ties per splice (2 min.) ok

Stop-log guide, proper placement; N/A

Pipe sleeves, proper placement; N/A

4000 STG/TY1/FA/DARA-65

TICKET 611754

10/22/01	Mix No. 196	1.75 yds	Truck 48	Plant 1		MICRO
CON.SAND	2550*(1.00/ 1.00)	(4.20) GF/TY1		950 (1.00/ 1.00)		DARA-
AIR 6		(1.20) FLY ASH		1080		POLAR
3/4 STG	5550					
65	66*					
SET	0					

6883 total

WATER 30/ 253 (1.00/ 1.00)

MAX WATER 66.5/ 17.6

TRIM -7.00

TARE AGG1 0 50 CMT 0 -50 WAT -3 4

TIME : 14:40:08

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
DAILY INSPECTION CHECKLIST

DATE: 10-23-01 INSPECTOR: Don Maynard

WEATHER: 55-60°F overcast WIND & WAVE HEIGHT: 5-15 mph, 0-0.5' waves

1) Access Control and Support Features:
Safety Fencing: In-place ✓; Secure @ end of workday OK

2) Environmental Controls:
Silt Fence/Hay Bales: In-place partially; Performing properly ramp under removal
Sediment Curtain: In-place ✓; Performing properly OK
Sorbent Boom: In-place ✓ removed pm; Performing properly OK

3) Water Filled Cofferdams: removed
Lake side; Retained water depth: 13:40 Lake level < 0.2' on bl3, < 93.3 FNGVD
Seepage: NONE; Height N/A; Alignment N/A

Canal side; Retained water depth: None - deflated 14:00 canal el = 6.12' = 94.1 FNGVD
Seepage: N/A; Height N/A; Alignment N/A

4) By-pass and de-watering pumping systems: BYPASS NOT USED - disassembled
de-watering disassembled ~ 15:00
By-Pass pump; Suction secure/proper depth; N/A; Discharge secure; N/A
Turbidity at outfall; N/A; at background location; N/A
Discharge hose; leakage N/A; signs of wear; N/A couplings; N/A

De-watering pumps; Suction secure; OK; Discharge secure; OK
Discharge hose; leakage @ pump only; signs of wear; no couplings; OK

5) Elevation check on railroad bridge abutments. Backfilled against abutments on 10/22/01 - elevation not measured

6) Inspect bike path crossing for damage.

7) Construction Activities:
Place riprap on fabric west of weir
continue backfilling around ends of weir
remove southern + middle lake Aquadams
deflate rr bridge aquadam
pick wood, metal and trash from riprap + site, wood left onsite.

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
DAILY INSPECTION CHECKLIST

DATE: 10-24-01 INSPECTOR: Don Maynard

WEATHER: 55-65°F partly cloudy WIND & WAVE HEIGHT: 0-5 mph, 0-0.5' waves

1) Access Control and Support Features
Safety Fencing: In-place removed ; Secure @ end of workday ____

2) Environmental Controls: removed
Silt Fence/Hay Bales: In-place ____ ; Performing properly ____
Sediment Curtain: In-place ____ ; Performing properly ____
Sorbent Boom: In-place ____ ; Performing properly ____

3) Water Filled Cofferdams: removed
Lake side; Retained water depth: Lake level 93.3 FMSVD
Seepage: ____ ; Height ____ ; Alignment ____

Canal side; Retained water depth: Canal 86.4 wl 8.13 = 94.13 FMSVD
Seepage: ____ ; Height ____ ; Alignment ____

4) By-pass and de-watering pumping systems: removed

By-Pass pump; Suction secure/proper depth; ____ ; Discharge secure; ____
Turbidity at outfall; ____ ; at background location; ____
Discharge hose; leakage ____ ; signs of wear; ____ couplings; ____

De-watering pumps; Suction secure; ____ ; Discharge secure; ____
Discharge hose; leakage ____ ; signs of wear; ____ couplings; ____

5) Elevation check on railroad bridge abutments. OK - Final measurement within 0.01 Ft of 10-1-01 readings

6) Inspect bike path crossing for damage. NONE

7) Construction Activities:
complete Backing + grading @ Weir
strip Abutment FORMS
remove pumps, curtains, hay bales + fences
excavate Temp + re-enforce eroded slopes

PINE STREET CANAL SITE - OUTLET WEIR CONSTRUCTION
DAILY INSPECTION CHECKLIST Final Report - B. Me... [illegible]

DATE: 10-25-01 INSPECTOR: D. Maynard

WEATHER: 55-60°F showers partly cloudy WIND & WAVE HEIGHT: 20-30 mph, 1-2' waves

1) Access Control and Support Features: removed.
Safety Fencing: In-place — ; Secure @ end of workday —

2) Environmental Controls: removed
Silt Fence/Hay Bales: In-place — ; Performing properly —
Sediment Curtain: In-place — ; Performing properly —
Sorbent Boom: In-place — ; Performing properly —

3) Water Filled Cofferdams: removed
Lake side; Retained water depth: 93.3 FNGVD
Seepage: — ; Height — ; Alignment —

Canal side; Retained water depth: 94.17 FNGVD
Seepage: — ; Height — ; Alignment —

4) By-pass and de-watering pumping systems: removed

By-Pass pump; Suction secure/proper depth; — ; Discharge secure; —
Turbidity at outfall; — ; at background location; —
Discharge hose; leakage — ; signs of wear; — couplings; —

De-watering pumps; Suction secure; — ; Discharge secure; —
Discharge hose; leakage — ; signs of wear; — couplings; —

5) Elevation check on railroad bridge abutments. Final check performed 10/24 - OK

6) Inspect bike path crossing for damage. NONE

7) Construction Activities:
Final grading of ramp area
Plant trees - add LOAM
seed, fertilize + mulch staging area
Add riprap to southeast weir abutment per request of Charlie Lemieux, VT Railroad.

APPENDIX 4

DESIGN CHANGE FORMS

PINE STREET BARGE CANAL REMEDIAL ACTION
DESIGN CHANGE NOTIFICATION/REQUEST FORM

Design Change Number 001

Major _____
Minor X

Date of Request 10/3/01

RECOMMENDED BY:

EPA Karen Lumino
Engineer Don Maynard
Project Manager Thor Helgason

CHANGE DESCRIPTION:

Use of ST Griswold 3/4" plant mix manufactured crushed and screened stone from the South Brownell Road Quarry for bedding material. Two composite sampled collected on September 21, 2001 from the quarry were tested via ASTM Method D422 grain size analysis by Vermont Testing of Waterbury, Vermont. The two samples passed the required grain size distribution presented in Specification Section 02221 except for the ½ inch size (both samples), and the #4 sieve size (one sample). Specification 02221 requires 30-70% passing the ½" sieve. The samples had 83.0 and 83.2% passing. Specification 02221 requires 15-50% passing the #4 sieve. The samples had 54.6 and 46.9% passing. A modified proctor test (ASTM D1557) perfomred on a composite of the two samples indicates a maximum dry density of 141.6 pcf, and an optimum moisture content of 9.5%.

The material is slightly finer than that specified. This will not impact its ability to support the weir. The finer gradation will reduce the hydraulic conductivity, and therefore the rate of leakage below the dam. This reduction in seepage will be advantageous as it will encourage seeping water to take ~~a longer~~ path beneath the dam.

ATTACHMENTS: (list supporting documentation, if applicable) Sieve and Proctor test results

APPROVAL SIGNATURES:

Environmental Protection Agency _____ Date: _____

Vermont Department of Conservation _____ Date: _____

Engineer _____ Date: 10-3-01

Project Manager _____ Date: 12/3/01

Date: 09/14/2001
Project No.: 01-070
Project: OUTLET WEIR CONSTRUCTION

Sample Data

Location of Sample: MATERIAL SAMPLED BY THE CLIENT
Sample Description: BEDDING FOR STRUCTURES SAMPLE #2
USCS Class: GW Liquid limit:
AASHTO Class: A-1-a Plasticity index:

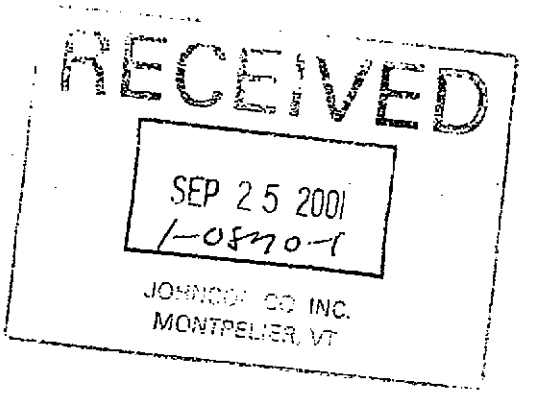
Notes

Remarks: CLIENT: THE JOHNSON CO. BEDDING FOR STRUCTURES#2
CHECK: JACQUES BOURAMIA LABORATORY NO.:01-1633
Fig. No.: 633

Mechanical Analysis Data

Initial
Dry sample and tare= 762.10
Tare = 0.00
Dry sample weight = 762.10
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.5 inches	127.80	83.2
0.375 inches	203.30	73.3
# 4	404.60	46.9
# 8	544.60	28.5
# 16	629.40	17.4
# 30	676.30	11.3
# 40	691.40	9.3
# 50	702.40	7.8
# 100	717.80	5.8
# 200	730.40	4.2



Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 53.1 % SAND = 42.8
% FINES = 4.1

D85= 13.30 D60= 6.714 D50= 5.182
D30= 2.5322 D15= 0.93004 D10= 0.47152
Cc = 2.0253 Cu = 14.2397

Project: OUTLET WEIR CONSTRUCTION

Sample Data

Location of Sample: MATERIAL SAMPLED BY THE CLIENT
Sample Description: BEDDING FOR STRUCTURES SAMPLE #1
USCS Class: SW Liquid limit:
AASHTO Class: A-1-a Plasticity index:

Notes

Remarks: CLIENT:THE JOHNSON CO. BEDDING FOR STRUCTURES#1
CHECK: JACQUES BOURAMIA LABORATORY NO.:01-1632
Fig. No.: 632

Mechanical Analysis Data

	Initial
Dry sample and tare=	1454.10
Tare =	0.00
Dry sample weight =	1454.10

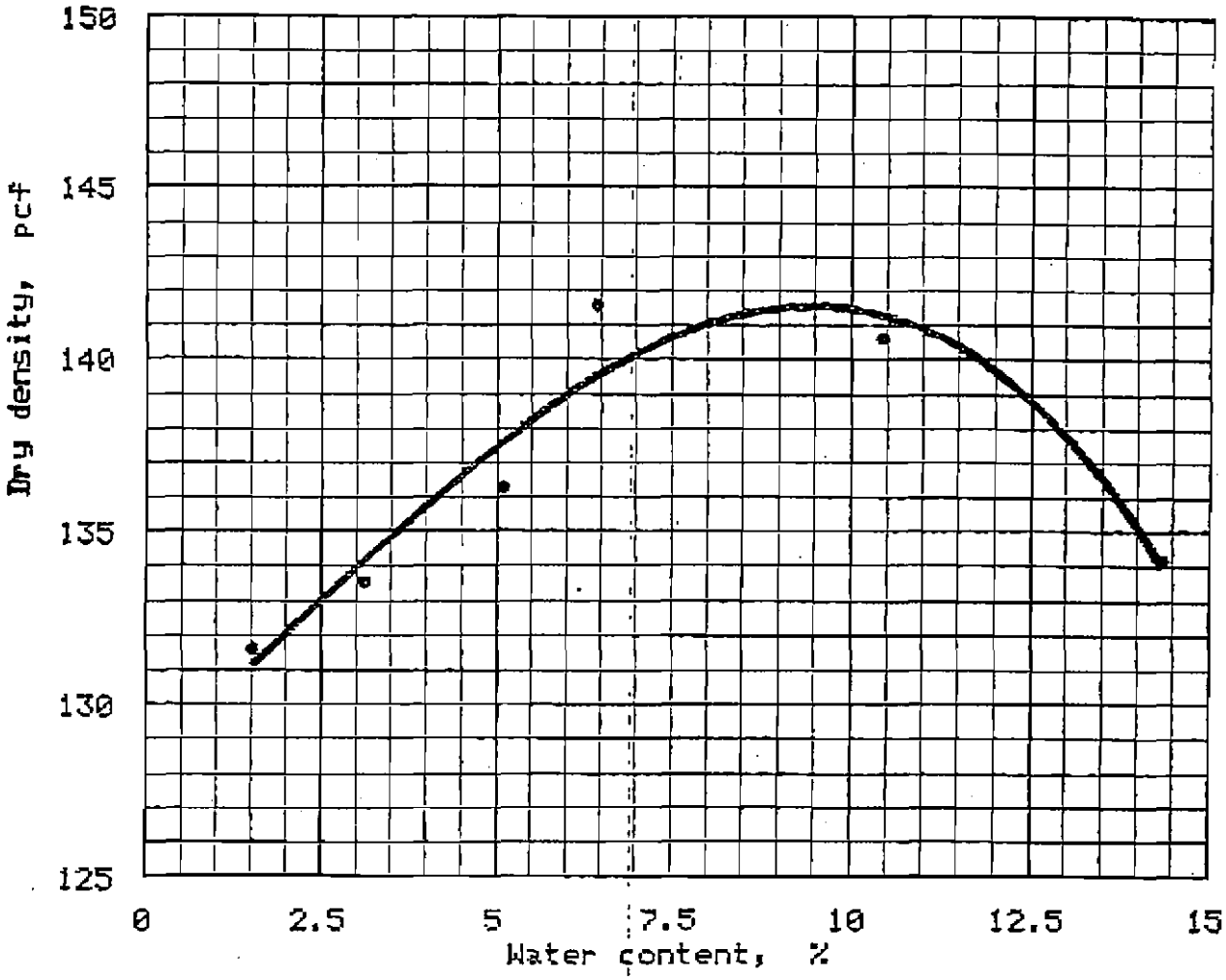
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
1 inches	0.00	100.0
0.75 inches	22.80	98.4
0.5 inches	246.60	83.0 ✓
0.375 inches	394.90	72.8
# 4	660.60	54.6 —
# 8	954.00	34.4
# 16	1146.50	21.2
# 30	1255.90	13.6
# 40	1293.00	11.1 ✓
# 50	1322.30	9.1
# 100	1364.80	6.1
# 200	1393.00	4.2 ✓

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
+ 3 in. = 0.0 % GRAVEL = 45.4 % SAND = 50.4
FINES = 4.2

D85= 13.34 D60= 5.821 D50= 4.027
D30= 1.9498 D15= 0.69183 D10= 0.35481
Cc = 1.8408 Cu = 16.4059



Test specification: ASTM D 1557-78 Method C, Modified

Elev/ Depth	Classification USCS	Classification AASHTO	Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in	% < No. 200

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 141.6 pcf Optimum moisture = 9.5 %	BEDDING MATERIAL FOR STRUCTURES

Project No.: 01-070
Project: OUTLET WEIR CONSTRUCTION
Location: MATERIAL SAMPLED BY THE CLIENT
SAMPLE #1 AND #2 COMBINATION
Date: 09/25/2001

Remarks:
CLIENT: THE JOHNSON CO.
CHECK: JACQUES BOURAMIA
LABORATORY NO.: 1632/1633

MOISTURE-DENSITY RELATIONSHIP TEST

GEISSER ENGINEERING CORP.

Fig. No. 1632-33

[illegible] Sub Base - Griswold Quarry Crushed Gravel

Barr, Douglas; Coefficient of Permeability Determined by Measurable Parameters, in Ground Water Vol.39 No.3 May-June 2001 pp356-361

U.S. Mesh	radius (cm)	3/r	weight retained	Cum. Weight	%passing	S (cm2/gm)
1"	1.27	2.36	0	0	100	0.0
0.75"	0.95	3.16	22.8	22.8	98.4	0.0
0.5"	0.635	4.72	223.8	246.6	83	0.7
0.375"	0.476	6.30	148.3	394.9	72.8	0.6
#4	0.237	12.66	265.7	660.6	54.6	2.3
#8	0.118	25.42	293.4	954	34.4	5.1
#100	0.0075	400.00	410.8	1364.8	6.1	113.0
#200	0.0038	789.47	28.2	1393	4.2	15.3
pan			61.1	1454.1	0	
Sum			1454.1	1		137.2
Shape factor	1.35	(1 for spheres to 1.35 for crushed stone)				
Porosity	0.3					

Calculated Hydraulic Conductivity 2.4E-02 cm/sec 68.1 feet per day '+-70%

PINE STREET BARGE CANAL REMEDIAL ACTION
DESIGN CHANGE NOTIFICATION/REQUEST FORM

Design Change Number 002

Major _____
Minor X

Date of Request 10/5/01

RECOMMENDED BY:

Engineer Don Maynard
Contractor Concrete Contractor S.T. Griswold

CHANGE DESCRIPTION:

Place the weir concrete in three events instead of two (footing and stem) as designated in the remedial design. Specifically, use a third concrete placement event for the two five-foot-long abutments at the ends of the weir which extend from 96.5 to 98.0 feet NGVD. This will allow use of pre-fabricated forms, which would not be possible if the both the angled stem faces and the vertical abutment faces were cast at the same time. The use of pre-fabricated forms rather than forms built with plywood or similar materials on-site will result in safer construction conditions (reduced chance of blow-out), and a smoother finished product.

If this proposed change is approved, a ribbed type water stop as per Specifications Section 03300 2.03A will be placed to bridge the construction joint at a distance of approximately 8-10 inches from each concrete face. Additionally, a key shall be cast in the joint which is at least 1.5 inches deep, 3.5 inches wide, and which extends in an east-west direction through at least three feet of each abutment.

The abutments are intended to be above the normal water level of approximately 96.0 ft NGVD in the Canal. Therefore, there is little horizontal force expected on them, and what force does occur will be resisted by the re-enforcement. The water stops and key will deter seepage of water through the construction joint for the periods of time in which it may be inundated.

ATTACHMENTS: (list supporting documentation, if applicable) None

APPROVAL SIGNATURES:

Environmental Protection Agency _____ Date: _____

Vermont Department of Conservation _____ Date: 12 Oct 01

Engineer _____ Date: 10/5/01

Project Manager _____ Date: 10/5/01

Reviewed By:
C:\pscs\design change 002.wpd October 4, 2001 DMM

PINE STREET BARGE CANAL REMEDIAL ACTION
DESIGN CHANGE NOTIFICATION/REQUEST FORM

Design Change Number __003_____

Major _____
Minor ____X_____

Date of Request _____10/8/01_____

RECOMMENDED BY:

Engineer Don Maynard
Contractor Bill MacFarlane, Fleet

CHANGE DESCRIPTION:

Place an additional dewatering pump outfall on the north side of the turning basin. Surround the new outfall with silt fence installed in accordance with the Project Operation Plan. Using the proposed outfall (in the canal outlet east of the heavy equipment bridge) alone, may result in water being retained by the existing silt fence to such an extent that the water level between the silt fence and Aquadam® raises higher than the actual canal level.

ATTACHMENTS: (list supporting documentation, if applicable) Revised Figure 1 (hand drawn) dated 10/8/01

APPROVAL SIGNATURES:

Environmental Protection Agency_____ Date:_____

Vermont Department of Conservation_____ Date:_____

Engineer_____ Date: 10-8-01

Project Manager_____ Date:_____

Reviewed By:
K:\1-0870-1\weir construction - IUA Phase 1A\design change 003.wpd October 84, 2001 DMM

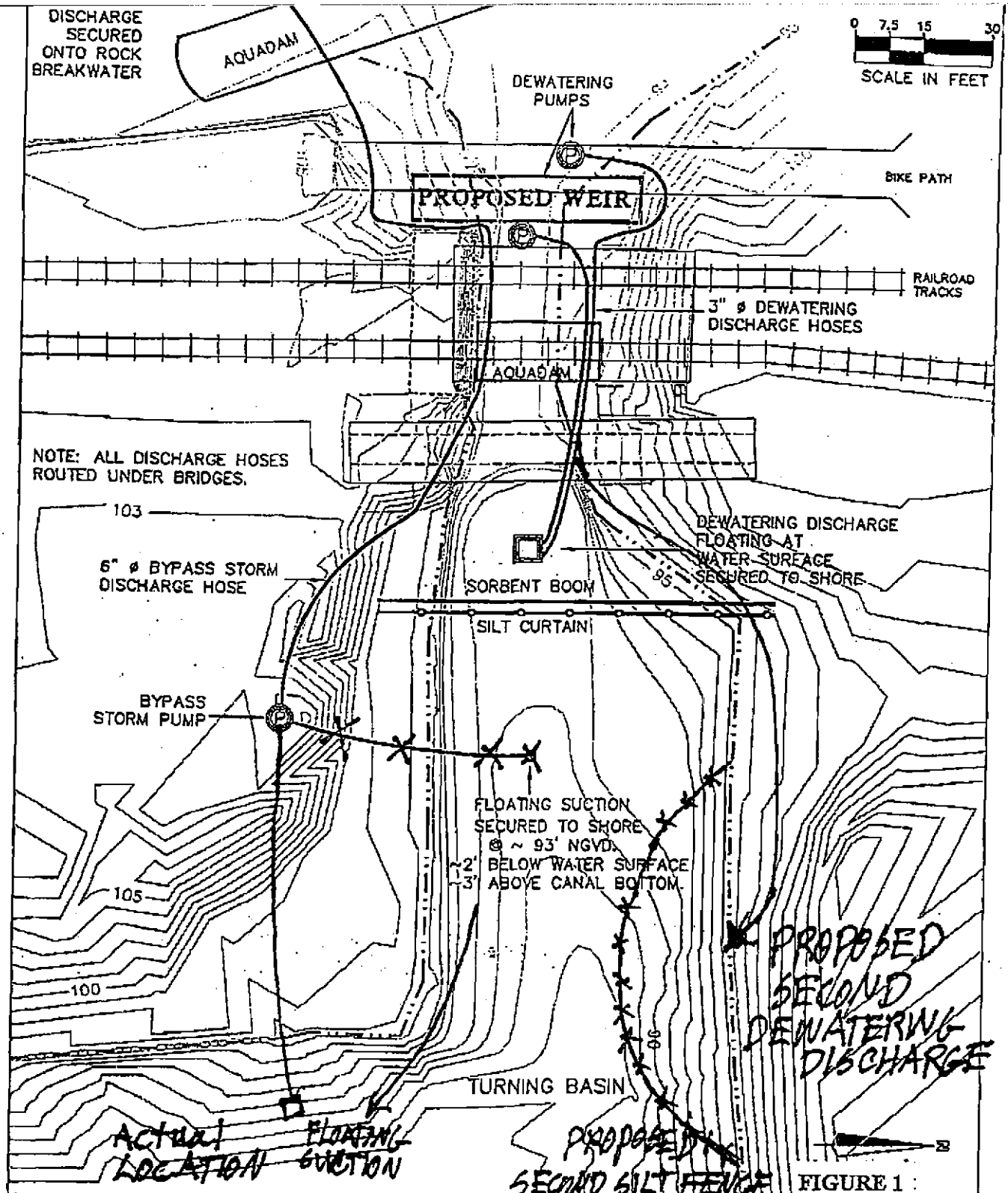


FIGURE 1

PROPOSED BYPASS/DEWATERING SCHEMATIC
PINE STREET CANAL SITE *REVISED*
BURLINGTON, VERMONT *10-1-01*

THE JOHNSON COMPANY, INC.
Environmental Sciences and Engineering
100 STATE STREET MONTPELIER, VT 05602

DATE: 7/27/01 PROJECT: 1-0870-1
DRAWN BY: LBM SCALE: 1"=30'

DESIGN CHANGE NOTIFICATION/REQUEST FORM

CC CMC J_B DMM

Design Change Number 4
Major
Minor X
Date of Request 10/11/01

RECOMMENDED BY:

EPA	Jean Choi + Hasan Abedi (CM + E)
Vt DEC	Mike Smith
Engineer	Don Maynard
Project Manager	Thor Helgason
Contractor	Bill MacFarlane

CHANGE DESCRIPTION:

BACKGROUND

Upon excavation for the weir foundation, a concrete step or sill was found cast onto the northern railroad bridge abutment and extending approximately four feet west of the abutment wall. The top of the concrete step is at elevation approximately 94.3 feet NGVD (1988). The concrete was cast on top of wooden cribbing which extends from the abutment west approximately twelve feet. The north-south width of the cribbing is approximately six feet. The top elevation of the cribbing was approximately 93 ft NGVD. The cribbing was composed of squared ~10 inch timbers (in the east-west direction) connected by notches or mortise and tendon to round notched logs (in the north-south direction) with iron 1" diameter pins. The cribbing was placed in alternating directions (similar to Lincoln Logs), and filled with ~1 foot diameter angular stone. Similar cribbing was encountered on the west side of the southern railroad bridge abutment. The dimensions of the southern cribbing were approximately six feet (north-south) by 16 feet, so that the western ends of both cribbing structures were parallel in a north-south direction. The inside edges of each cribbing structure were even with the inside edges of the two railroad bridge abutments. Further excavation of the northern cribbing demonstrated that it extends northwest from a distance approximately twelve feet from the abutment. If the southern cribbing exhibits a similar shape, then the entire structure forms a funnel, with the wide end towards Lake Champlain, and the narrow end at the railroad bridge.

The eastern edges of the cribbing were cut off and left in place. The cribbing west of the excavation was also left in place. A revised Figure 5 from the September 4 , 2001 Outlet Weir Design is attached (dated 10/10/01). The approximate extents of the cribbing and concrete step are shown on the revised Figure 5.

PROPOSED DESIGN CHANGE

In order to avoid damage to the concrete step on the northern railroad bridge abutment, it is necessary to move the weir location westward six feet. The applicability of the geotechnical calculations used during the design of the weir will not be affected by this change. The only significant change in construction required would be the placement of some additional backfill around the weir stem at the northern end from elevations of approximately 95 to 98 ft NGVD. A sketch of the proposed changed location is included as Figure 5 (revised).

ATTACHMENTS: (list supporting documentation, if applicable): Phase 1A 95%/100% Design Submittal dated 9/4/01 with 9/21/01 changes, Section 1 -Outlet Weir Design - Figure 5 - Survey Data (revised 10/10/01).

APPROVAL SIGNATURES:

Environmental Protection Agency _____ Date: 10-11-01

Vermont Department of Conservation _____ Date: 10-11-01

Engineer _____ Date: 10-10-01

Project Manager _____ Date: _____

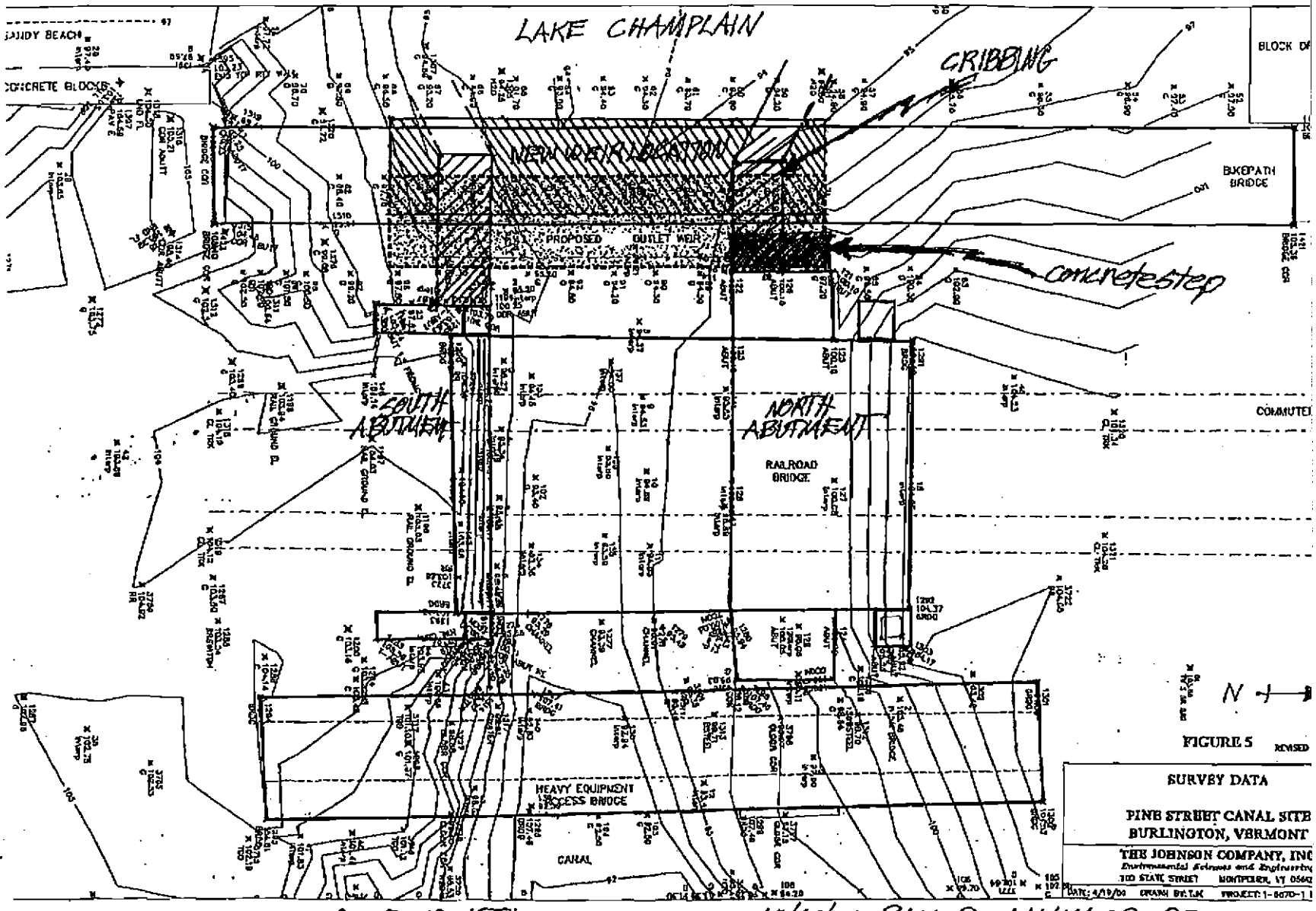


FIGURE 5 REVISED

SURVEY DATA

PINE STREET CANAL SITE
BURLINGTON, VERMONT

THE JOHNSON COMPANY, INC.
Environmental Sciences and Engineering
100 STATE STREET MONTPELIER, VT 05602

DATE: 4/19/00 DRAWN BY: TJK PROJECT: 1-8070-1.1

REVISED 10/10/01 BY: D. MAYNARD, P.E.
FOR DESIGN CHANGE #4

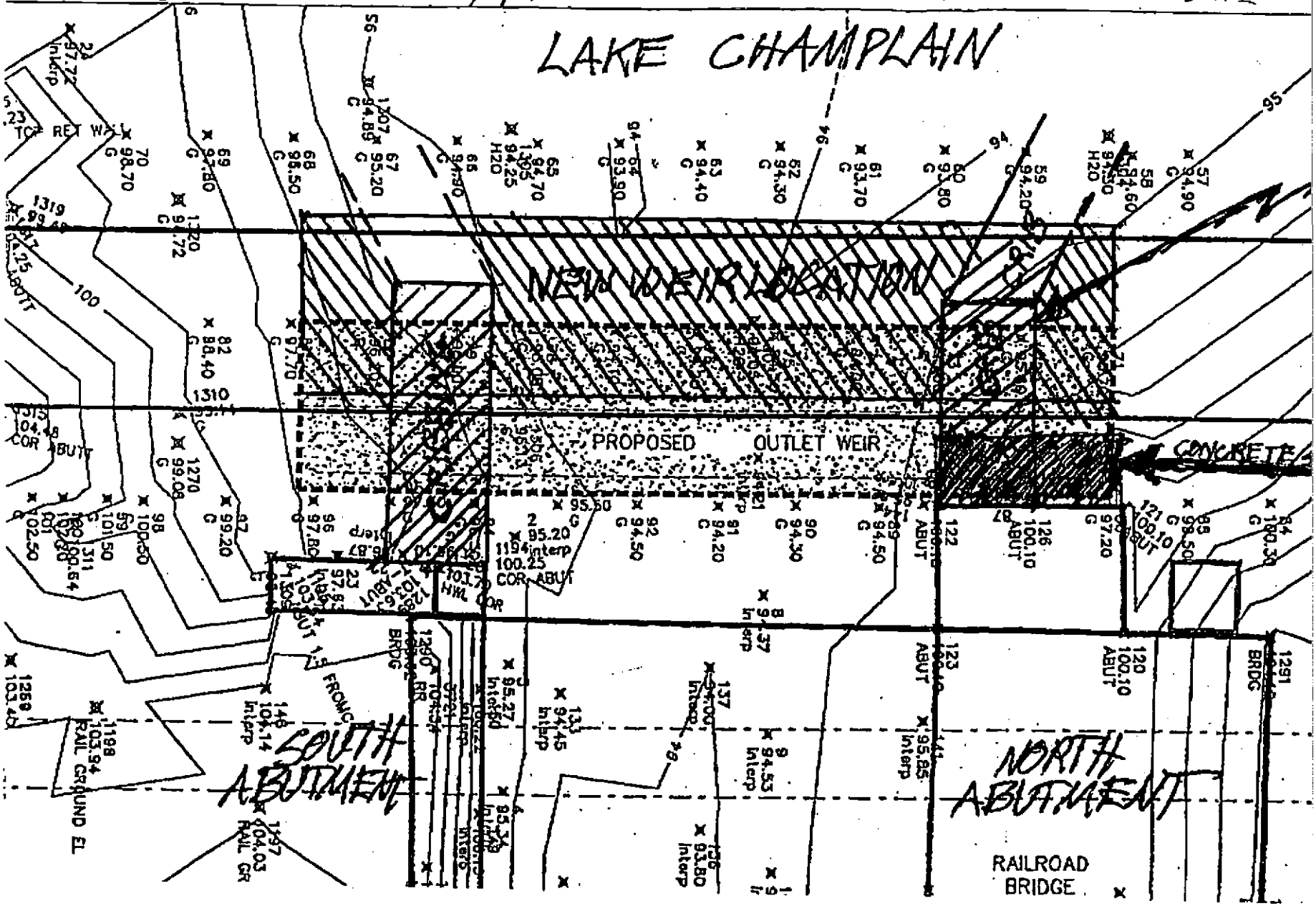
PINE STREET CANAL SITE
BURLINGTON, VERMONT

REVISED BY D. MAYNARD 10/10/01

FROM: Phase 1A 95%/100% Design Submittal - 9/4/01
SECTION 1, OUTLET WEIR DESIGN
FIGURE 5, SURVEY DATA

N

0 5
SCALE



de maximis, inc.
135 Beaver Street
Fourth Floor
Waltham, MA 02452
(781) 642-8775
Fax (781) 642-1078

October 11, 2001

VIA FAX AND US MAIL

Ms. Karen Lumino
United States Environmental Protection Agency
Mail Code: HBT
1 Congress Street
Boston, MA 02114

RE: Design Change Requests - Minor
weir Construction
Pine Street Canal Superfund Site

Dear Ms. Lumino:

Attached are Design Change Requests Nos. 1 through 4 for the construction of the weir at the Pine Street Canal Superfund Site. All are minor. A summary appears below:

Design Change Request No.	Date	Major or Minor	Description
1	10/3/01	Minor	Use crushed gravel backfill provided by ST Griswold.
2	10/5/01	Minor	Modify concrete forming/pouring approach
3	10/8/01	Minor	Provide an additional excavation dewatering pump
4	10/11/01	Minor	Move footprint of weir footing 6 feet west to avoid buried extension of concrete bridge abutment

The scope of each of these requests has been discussed with EPA and/or M & E either prior to construction, in the case of Design Change Request No. 1, or during construction on October 10 and 11, in the case of the other Design Change Requests. These Design Change Requests have been made exclusively to expedite construction of the weir, and none of the requests affect the geometry or performance of the weir.

We would appreciate approval of these Design Change Requests. Please do not hesitate to call me at (781)642-8775 should you have any questions.

Sincerely,
de maximis, inc.

Thor Helgason
Project Coordinator

cc: Mike Smith - VTDEC
Don Maynard - The Johnson Compamny
Performing Defendants

APPENDIX 5

SUB-BASE AND CONCRETE TEST RESULTS

PROJECT DATA

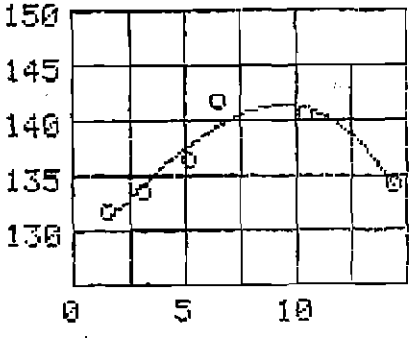
Date: 09/25/2001
Project No.: 01-070
Project: OUTLET WEIR CONSTRUCTION
Location 1: MATERIAL SAMPLED BY THE CLIENT
2: SAMPLE #1 AND #2 COMBINATION
Remarks 1: CLIENT: THE JOHNSON CO.
2: CHECK: JACQUES BOURAMIA
3: LABORATORY NO.:1632/1633
Material 1: BEDDING MATERIAL
description 2: FOR STRUCTURES
Elevation or depth:
Fig. No.: 1632-33

SPECIMEN DATA

USCS classification: AASHTO classification:
Natural moisture: Specific gravity:
Percent retained on 3/4 in sieve:
Percent passing No. 200 sieve:
Liquid limit: Plastic limit: Plasticity index:

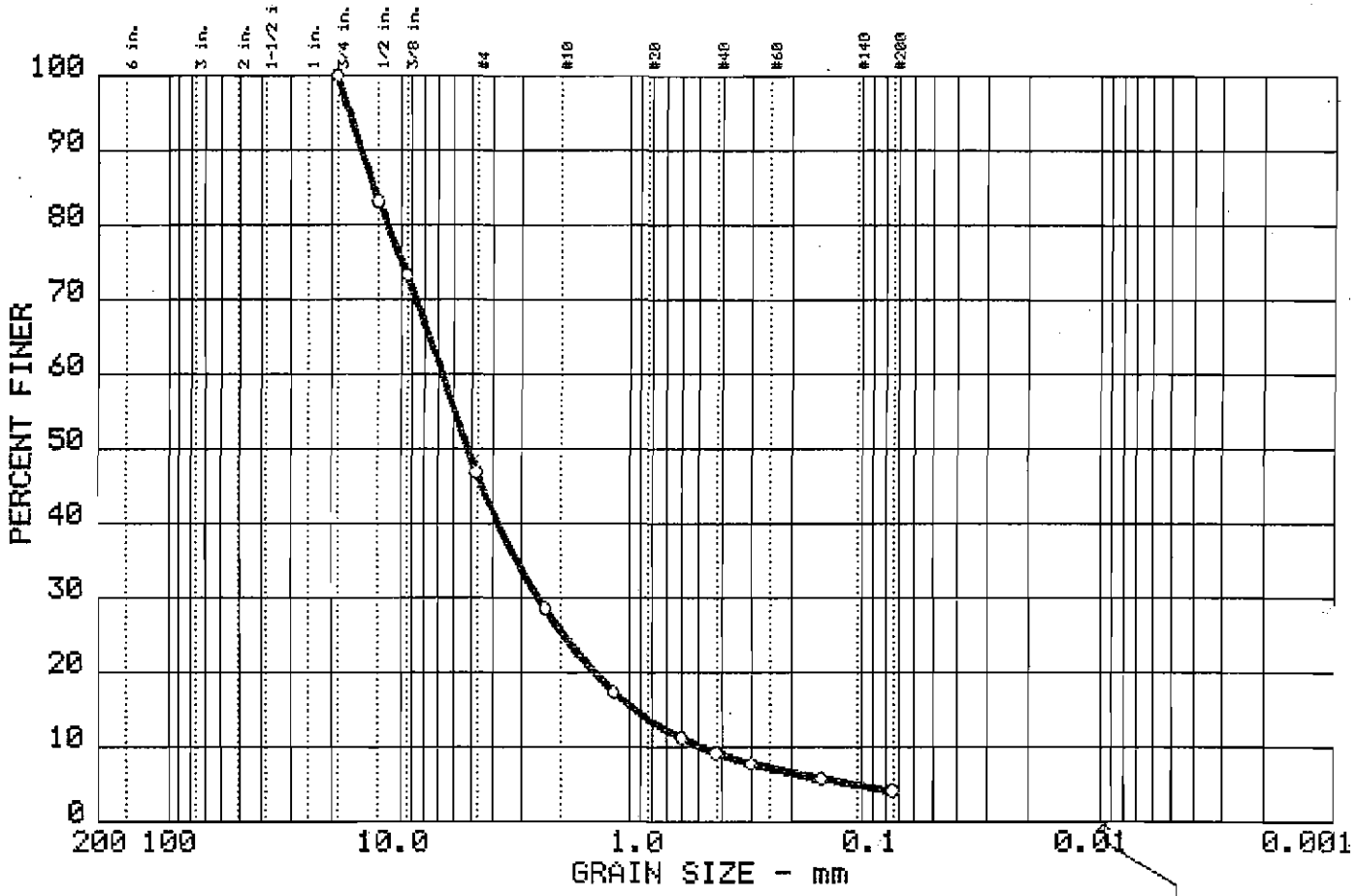
TEST DATA AND RESULTS FOR CURVE 1632-33

Type of test: Modified, ASTM D 1557-78 Method C



POINT NO.	1	2	3	4	5	6
WM + WS	16.17	16.48	16.90	17.46	17.80	17.66
WM	6.15	6.15	6.15	6.15	6.15	6.15
WW+T #1	230.20	254.60	255.80	295.40	250.20	260.30
WD+T #1	227.10	247.50	243.30	276.30	226.30	227.00
TARE #1	0.00	0.00	0.00	0.00	0.00	0.00
MOIST #1	1.4	2.9	5.1	6.9	10.6	14.7
WW+T #2	205.10	285.10	222.70	205.50	251.10	261.20
WD+T #2	201.70	275.80	212.00	193.90	227.60	229.10
WT #2	0.00	0.00	0.00	0.00	0.00	0.00
MOIST #2	1.7	3.4	5.0	6.0	10.3	14.0
MOISTURE	1.5	3.1	5.1	6.4	10.4	14.3
DRY DEN	131.6	133.5	136.3	141.6	140.6	134.2

Max dry dens= 141.6 pcf, Opt moisture= 9.5 %



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
o	14	0.0	53.1	42.8	4.1	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
o			13.3	6.71	5.18	2.53	0.930	0.472	2.03	14.2

MATERIAL DESCRIPTION	USCS	AASHTO
o BEDDING FOR STRUCTURES SAMPLE #2	GW	A-1-a

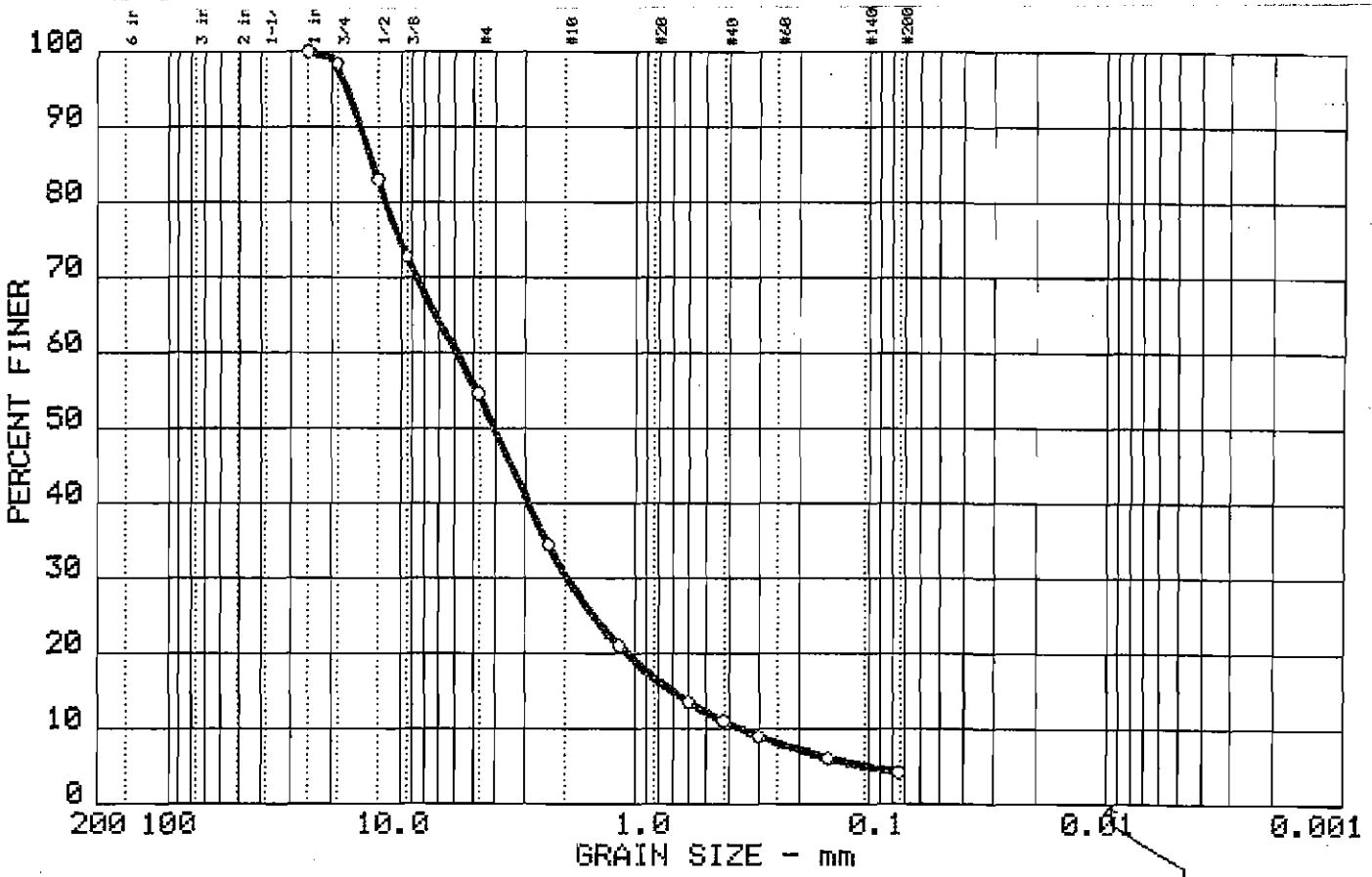
Project No.: 01-070
Project: OUTLET WEIR CONSTRUCTION
o Location: MATERIAL SAMPLED BY THE CLIENT

Date: 09/14/2001

GRAIN SIZE DISTRIBUTION TEST REPORT
GEISSER ENGINEERING CORP.

Remarks:
CLIENT: THE JOHNSON CO.
BEDDING FOR STRUCTURES#2
CHECK: JACQUES BOURAMIA
LABORATORY NO.:01-1633

Figure No.633



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○	12	0.0	45.4	50.4	4.2	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			13.3	5.82	4.03	1.95	0.692	0.355	1.84	16.4

MATERIAL DESCRIPTION	USCS	AASHTO
○ BEDDING FOR STRUCTURES SAMPLE #1	SW	A-1-a

Project No.: 01-070
Project: OUTLET WEIR CONSTRUCTION
○ Location: MATERIAL SAMPLED BY THE CLIENT

Date: 09/24/2001

GRAIN SIZE DISTRIBUTION TEST REPORT

GEISSER ENGINEERING CORP.

Remarks:
CLIENT:THE JOHNSON CO.
BEDDING FOR STRUCTURES#1
CHECK: JACQUES BOURAMIA
LABORATORY NO.:01-1632

Figure No.632

VTesting
1-800-244-6131 • FAX (802) 244-5097
DIVISION OF GEISSER ENGINEERING CORPORATION

Date: 10/15/01
Job No: 01-070
Project: **Weir Outlet Construction**
Location: Burlington, Vermont
Contractor:

To:
Attn: Mr. Donald Maynard
THE JOHNSON COMPANY
100 State Street, Suite 600
Montpelier, VT 05602

The Following Was Noted:

THURSDAY 10/11/01 Weather: Sunny

At the request of the client, the undersigned proceeded to the above-named project site for the purpose of performing field density testing.
Upon arrival, the undersigned checked in with the supervisor for orientation.
Operations this date were as follows:

The undersigned selected seven (7) representative locations on the prepared surface as it existed on this day and took the corresponding density tests. The undersigned also observed the backfill of a trench with crushed stone then compacting it with a compacter and then ready to be tested by a Troxler. Two lifts were done with the crushed stone to prepare for the concrete crew to work on the forms.

Test results and locations can be found on the accompanying field compaction report for this date. All tests were performed using a Troxler Nuclear Density Gauge.
Prior to departing the site, the undersigned reviewed the days work with the supervisor.

Dianne Badger

FIELD COMPACTION REPORT

Copies To:

Vermont Testing
P.O. Box 420 • Waterbury, Vermont 05676
1-800-244-6131 • FAX (802) 244-5097
DIVISION OF GEISSER ENGINEERING CORPORATION

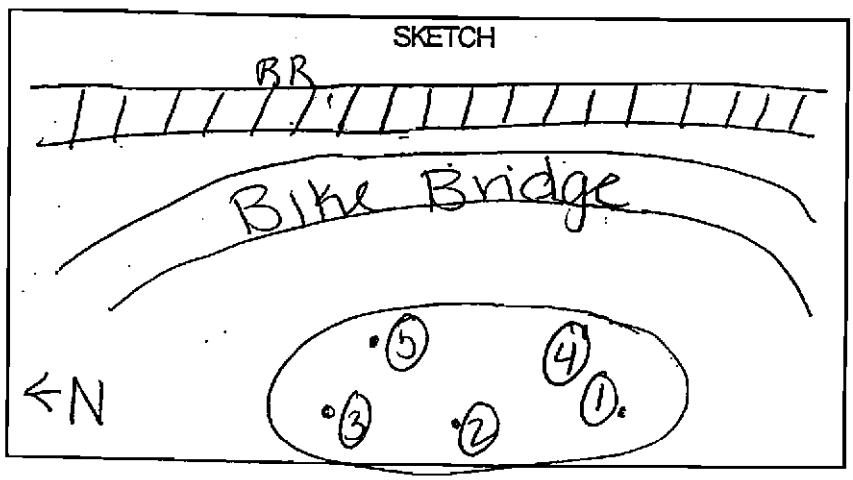
FIELD COMPACTION REPORT

PROJECT: WEIR CONSTRUCTION FILE NO: 01-070

CLIENT: THE JOHNSON COMPANY DATE: 10/11/01

TEST NUMBER	1	2	3	4	5
SOIL DESCRIPTION	CRUSHED STONE				
LOCATION	TRENCH FOR DAM UNDER BIKE BRIDGE			2ND LIFT	
ELEVATION	90' NGVD		NATIONAL DATA	GEODATIC	VERTICAL
IN-PLACE DRY DENSITY (pcf)	126.8	126.3	129.2	130.4	126.9
MOISTURE CONTENT (%)	6.6	4.6	2.6	6.7	1.1
OPTIMUM DRY DENSITY (pcf)	141.6				
OPTIMUM MOISTURE CONTENT (%)	9.5				
PERCENT COMPACTION	89.6	89.2	91.2	92.1	89.6

SKETCH



REMARKS: 90%

90% MINIMUM COMPACTION REQUIRED.

DIANNE BADGER

SUBMITTED BY

VTesting
1-800-244-6131 • FAX (802) 244-5097
DIVISION OF GEISSER ENGINEERING CORPORATION

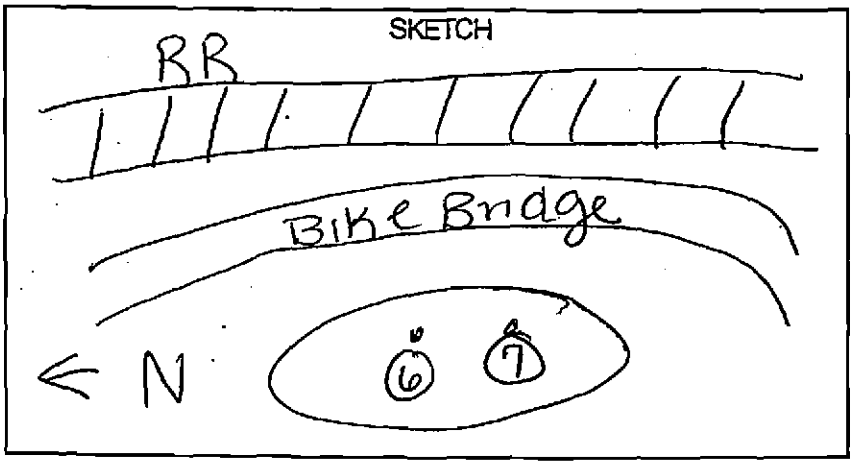
FIELD COMPACTION REPORT

PROJECT: WEIR CONSTRUCTION FILE NO: 01-070

CLIENT: THE JOHNSON COMPANY DATE: 10/11/01

TEST NUMBER	6	7			
SOIL DESCRIPTION	CRUSHED STONE				
LOCATION	TRENCH FOR DAM UNDER BIKE BRIDGE				
ELEVATION	90' NGVD--------				
IN-PLACE DRY DENSITY (pcf)	128.5	130.1			
MOISTURE CONTENT (%)	5.2	4.6			
OPTIMUM DRY DENSITY (pcf)	141.6----------				
OPTIMUM MOISTURE CONTENT (%)	9.5----------				
PERCENT COMPACTION	90.8	91.9			

SKETCH



REMARKS: 90%
90%MINIMUM COMPACTION REQUIRED.

DIANNE BADGER
SUBMITTED BY

Date: 10/15/2001
Project No.: 01-070
Project: OUTLET WEIR CONSTRUCTION

Sample Data

Location of Sample: MATERIAL SAMPLED BY THE CLIENT
Sample Description: BEDDING MATERIAL FOR STRUCTURES SAMPLE #1
USCS Class: GW Liquid limit:
AASHTO Class: A-1-a Plasticity index:

Notes

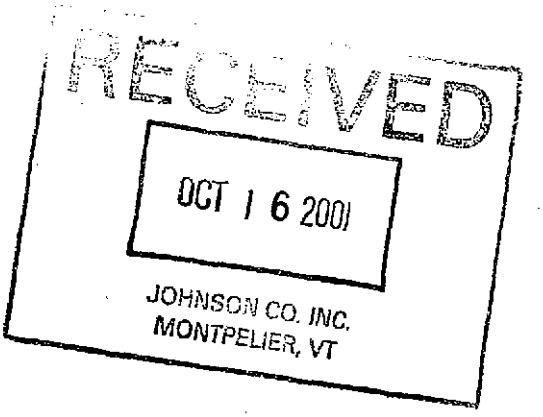
Remarks: CLIENT:THE JOHNSON CO. BEDDING MATRIAL SAMPLE#1
CHECK: JACQUES BOURAMIA LABORATORY NO.:01-1674
Fig. No.: 674

Mechanical Analysis Data

	Initial
Dry sample and tare=	1268.80
Tare =	0.00
Dry sample weight =	1268.80

Tare for cumulative weight retained= 0

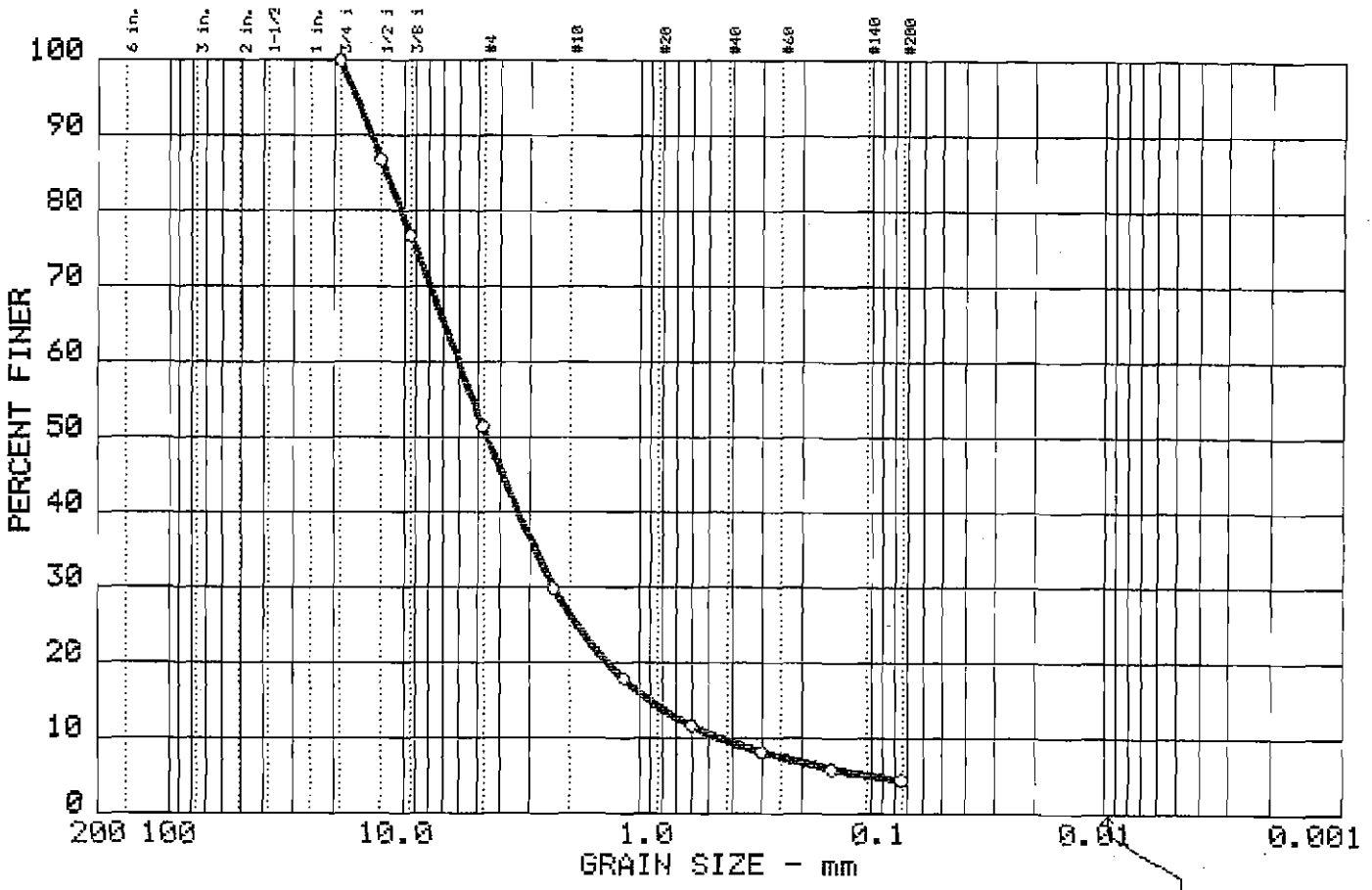
Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.5 inches	167.50	86.8
0.375 inches	295.80	76.7
# 4	616.40	51.4
# 8	889.40	29.9
# 16	1042.00	17.9
# 30	1120.70	11.7
# 50	1165.10	8.2
# 100	1193.60	5.9
# 200	1212.80	4.4



Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 48.6 % SAND = 47.0
% FINES = 4.4

D85= 12.02 D60= 6.026 D50= 4.560
D30= 2.3659 D15= 0.89950 D10= 0.45082
Cc = 2.0606 Cu = 13.3660



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○	9	0.0	48.6	47.0	4.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			12.0	6.03	4.56	2.37	0.899	0.451	2.06	13.4

MATERIAL DESCRIPTION	USCS	AASHTO
○ BEDDING MATERIAL FOR STRUCTURES SAMPLE #1	GW	A-1-a

Project No.: 01-070
Project: OUTLET WEIR CONSTRUCTION
○ Location: MATERIAL SAMPLED BY THE CLIENT

Date: 10/15/2001

GRAIN SIZE DISTRIBUTION TEST REPORT

GEISSER ENGINEERING CORP.

Remarks:
CLIENT: THE JOHNSON CO.
BEDDING MATRIAL SAMPLE#1
CHECK: JACQUES BOURAMIA
LABORATORY NO.: 01-1674

Figure No. 674

Date: 10/15/2001
Project No.: 01-070
Project: OUTLET WEIR CONSTRUCTION

Sample Data

Location of Sample: MATERIAL SAMPLED BY THE CLIENT
Sample Description: BEDDING MATERIAL FOR STRUCTURES SAMPLE #2
USCS Class: SW-SM Liquid limit:
AASHTO Class: A-1-a Plasticity index:

Notes

Remarks: CLIENT:THE JONSON CO. BEDDING MATRIAL SAMPLE#2
CHECK: JACQUES BOURAMIA LABORATORY NO.:01-1675
Fig. No.: 675

Mechanical Analysis Data

	Initial
Dry sample and tare=	1414.00
Tare =	0.00
Dry sample weight =	1414.00

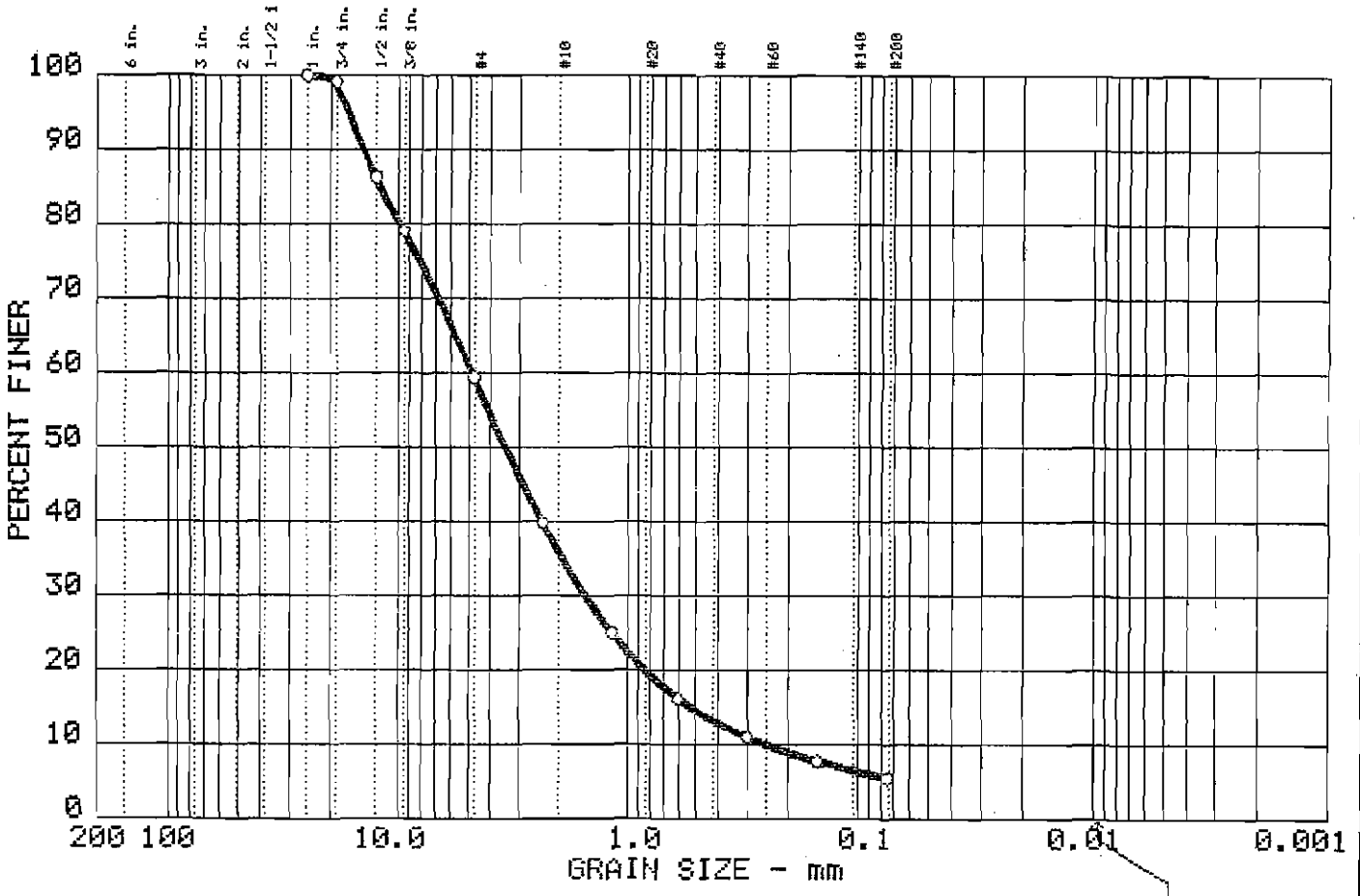
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
1 inches	0.00	100.0
0.75 inches	10.50	99.3
0.5 inches	193.50	86.3
0.375 inches	295.50	79.1
# 4	573.50	59.4
# 8	852.00	39.7
# 16	1060.00	25.0
# 30	1185.10	16.2
# 50	1258.20	11.0
# 100	1304.10	7.8
# 200	1335.60	5.5

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 40.6 % SAND = 53.9
% FINES = 5.5

D85= 12.15 D60= 4.836 D50= 3.424
D30= 1.5293 D15= 0.52420 D10= 0.24803
Cc = 1.9498 Cu = 19.4984



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○	10	0.0	40.6	53.9	5.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			12.1	4.84	3.42	1.53	0.524	0.248	1.95	19.5

MATERIAL DESCRIPTION	USCS	AASHTO
○ BEDDING MATERIAL FOR STRUCTURES SAMPLE #2	SW-SM	A-1-a

Project No.: 01-070
Project: OUTLET WEIR CONSTRUCTION
○ Location: MATERIAL SAMPLED BY THE CLIENT

Date: 10/15/2001

Remarks:
CLIENT: THE JONSON CO.
BEDDING MATRIAL SAMPLE#2
CHECK: JACQUES BOURAMIA
LABORATORY NO.: 01-1675

GRAIN SIZE DISTRIBUTION TEST REPORT

GEISSER ENGINEERING CORP.

Figure No.675

V Testing
1-800-244-6131 • FAX (802) 244-5097
DIVISION OF GLOSSER ENGINEERING CORPORATION

Date: 10/17/01
Job No: 01-070
Project: Weir Outlet Construction
Location: Burlington, Vermont
Contractor:

To:
Attn: Mr. Donald Maynard
THE JOHNSON COMPANY
100 State Street, Suite 600
Montpelier, VT 05602

The Following Was Noted:

MONDAY 10/15/01 Weather: Sunny

At the request of the client, the undersigned proceeded to the above-named project site for the purpose of performing concrete testing.
Upon arrival, the undersigned checked in with Mr. Donald Maynard for orientation.
Operations this date were as follows:
The undersigned tested the concrete as it existed on this day for slump, air content, and temperature. The location was the slab section to go under the dam for the weir.
One set of six (6) concrete test cylinders was also cast and stored properly on site.
Concrete test results were as follows:

Slump(in)	Air Content %	Concrete Temp.	Ticket #	Truck #
3.0	5.0	69°F	611454	77
4.0	5.6	70°F	611456	68
3.5	5.3	72°F	611458	67
4.0	5.6	67°F	611460	96
3.0	5.0	69°F	611461	97

Additional test results can be found on the concrete test report for this date. The air content was determined by using a Forney air meter.
Prior to departing the site, the undersigned reviewed the days work with Mr. Donald Maynard.

Kevin Perry

FIELD CONCRETE REPORT

Copies To:

V Testing
1-800-244-6131 • FAX (802) 244-5097

CONCRETE TEST REPORT

PROJECT: WEIR OUTLET CONSTRUCTION
FILE NO: 01-070
CLIENT: THE JOHNSON COMPANY
DATE CAST: 10/15/01
CONTRACTOR:
DATE RECEIVED: 10/16/01
SUPPLIER: S.T. GRISWOLD
CUBIC YARDS PLACED: 35.5

WEATHER: SUNNY WIND: CALM AIR TEMP: 74

LOCATION OF PLACEMENT: SLAB UNDER DAM

COMPRESSIVE STRENGTH TEST RESULTS

DESIGN STRENGTH 4000 PSI @ 28 DAYS

CYLINDER SERIES	TIME ON-SITE	AGE DAYS	WET UNIT WEIGHT	SLUMP (IN.)	AIR (%)	CONC. TEMP.	SLIP NUMBER	TRUCK NUMBER	COMPRESSIVE STRENGTH
	2:30	--	-	3.0	5.0	69	611454	77	
	2:35	--	-	4.0	5.6	70	611456	68	
1A	3:30	1	-	3.5	5.3	72	611458	67	2650
1B	"	3	-	"	"	"	"	"	3070
1C	"	7	-	"	"	"	"	"	3680
1D	"	28	-	"	"	"	"	"	4500
1E	"	28	-	"	"	"	"	"	4520
1F	"	56	-	"	"	"	"	"	4550
	3:50	--	-	4.0	5.6	67	611460	96	
	4:15	--	-	3.0	5.0	69	611461	97	

REMARKS: DURACEAM 65 WAS ADDED AT THE SITE AS WELL AS 13 GALLONS OF MICRO AIR 21

Copies To:

VT Testing
P.O. Box 420 • Waterbury, Vermont 05676
1-800-244-6131 • FAX (802) 244-5097
DIVISION OF GEISSER ENGINEERING CORPORATION

Date: 10/22/01
Job No: 01-070
Project: Weir Outlet Construction
Location: Burlington, Vermont
Contractor:

To:
Attn: Mr. Donald Maynard
THE JOHNSON COMPANY
100 State Street, Suite 600
Montpelier, VT 05602

The Following Was Noted:

FRIDAY 10/19/01 Weather: Cloudy

At the request of the client, the undersigned proceeded to the above-named project site for the purpose of performing concrete testing.
Upon arrival, the undersigned checked in with Mr. Donald Maynard for orientation.
Operations this date were as follows:

The undersigned tested the concrete as it existed on this day for slump, air content, and temperature. One set of six (6) concrete test cylinders was also cast and stored properly on site. Concrete test results were as follows:

Slump(in)	Air Content %	Concrete Temp.	Ticket #	Truck #
3.5	4.2	72°F	611674	75
2.5	5.1	76°F	611678	84
2.75	4.6	76°F	611681	74
3.5	4.2	76°F	611684	75

Additional test results can be found on the concrete test report for this date. The air content was determined by using a Forney air meter.
Prior to departing the site, the undersigned reviewed the days work with Mr. Donald Maynard.

Dianne Badger

FIELD CONCRETE REPORT

Copies To:

Testing
1-800-244-0131 • FAX (602) 244-0097
ENGINEERING CORPORATION

CONCRETE TEST REPORT

PROJECT: WEIR CONSTRUCTION
FILE NO: 01-070
CLIENT: THE JOHNSON COMPANY
DATE CAST: 10/19/01
CONTRACTOR:
DATE RECEIVED: 10/20/01
SUPPLIER: S.T. GRISWOLD
CUBIC YARDS PLACED: 27.25

WEATHER: CLOUDY WIND: CALM AIR TEMP: 54

LOCATION OF PLACEMENT: STEM ON WEIR, 4' HIGH, 2' CENTER, 50'3" LENGTH (BOTTOM 4' 10", TOP 2½ WIDE)

COMPRESSIVE STRENGTH TEST RESULTS

DESIGN STRENGTH 4000 PSI @ 28 DAYS

CYLINDER SERIES	TIME ON-SITE	AGE DAYS	WET UNIT WEIGHT	SLUMP (IN.)	AIR (%)	CONC. TEMP.	SLIP NUMBER	TRUCK NUMBER	COMPRESSIVE STRENGTH
2A	11:30	3	-	3.5	4.2	72	611674	75	2580
2B	"	3	-	"	"	"	"	"	2590
2C	"	7	-	"	"	"	"	"	3510
2D	"	28	-	"	"	"	"	"	4150
2E	"	28	-	"	"	"	"	"	4080
2F	"	56	-	"	"	"	"	"	4510
	12:00	--	-	2.5	5.1	76	611678	84	
	12:30	--	-	2.75	4.6	76	611681	74	
	1:00	--	-	3.5	4.2	76	611684	75	

REMARKS:

Copies To:

Testing
1-800-244-6131 • FAX (802) 244-5097
ENGINEERING CORPORATION

CONCRETE TEST REPORT

PROJECT: WEIR CONSTRUCTION
FILE NO: 01-070
CLIENT: THE JOHNSON COMPANY
DATE CAST: 10/22/01
CONTRACTOR:
DATE RECEIVED: 10/23/01
SUPPLIER: S.T. GRISWOLD
CUBIC YARDS PLACED: 1.75

WEATHER: CLEAR WIND: CALM AIR TEMP: 60

LOCATION OF PLACEMENT: ABUTMENTS

COMPRESSIVE STRENGTH TEST RESULTS

DESIGN STRENGTH 4000 PSI @ 28 DAYS

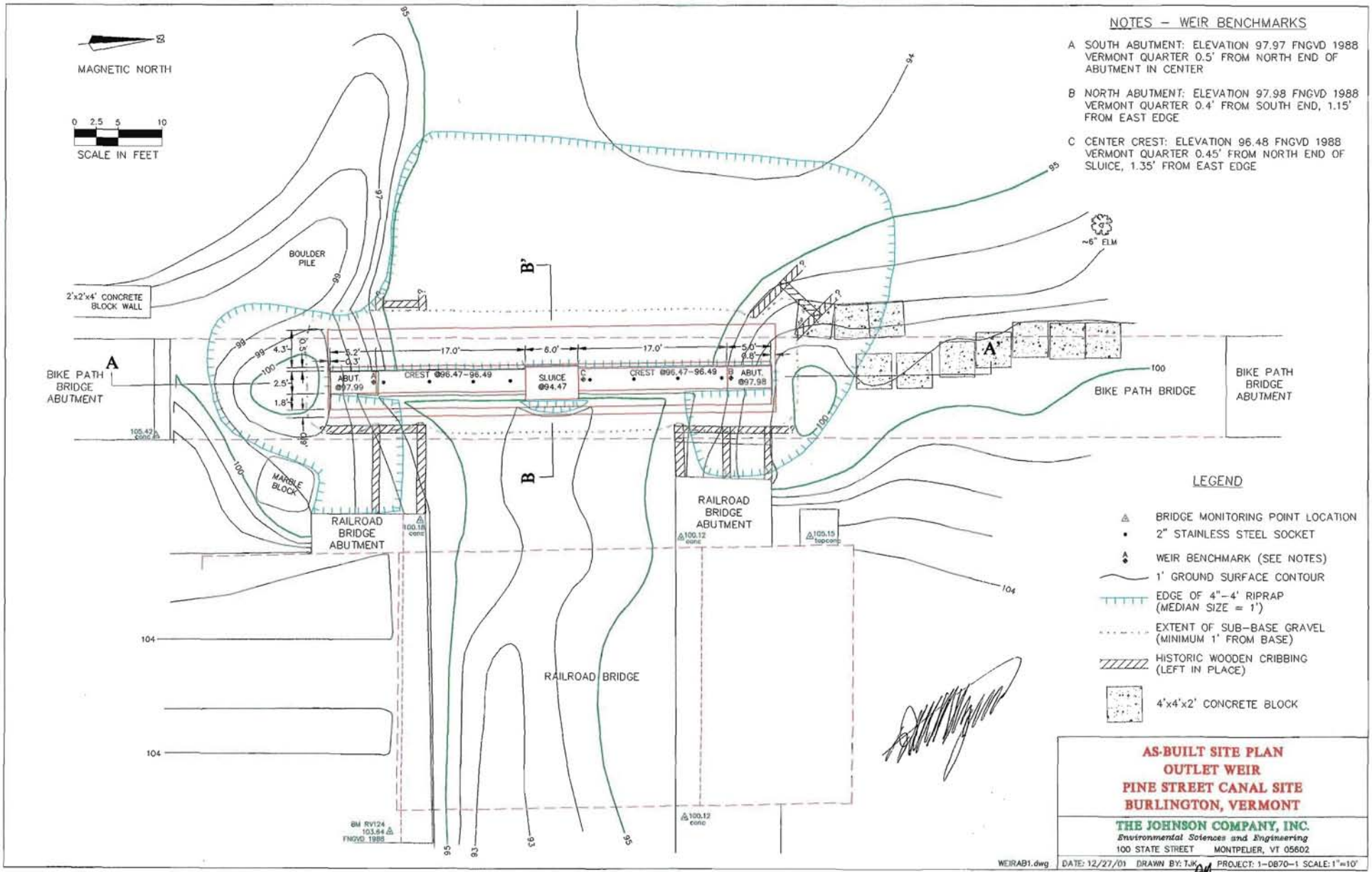
CYLINDER SERIES	TIME ON-SITE	AGE DAYS	WET UNIT WEIGHT	SLUMP (IN.)	AIR (%)	CONC. TEMP.	SLIP NUMBER	TRUCK NUMBER	COMPRESSIVE STRENGTH
3A	3:10	1	-	3.0	5.2	72	611754	48	520
3B	"	2	-	"	"	"	"	"	2180
3C	"	28	-	"	"	"	"	"	4090
3D	"	28	-	"	"	"	"	"	4200
3E	"	56	-	"	"	"	"	"	4370

REMARKS: TESTS AND CYLINDERS WERE CAST BY S.T. GRISWOLD

Copies To:

APPENDIX 6

AS BUILT DRAWINGS



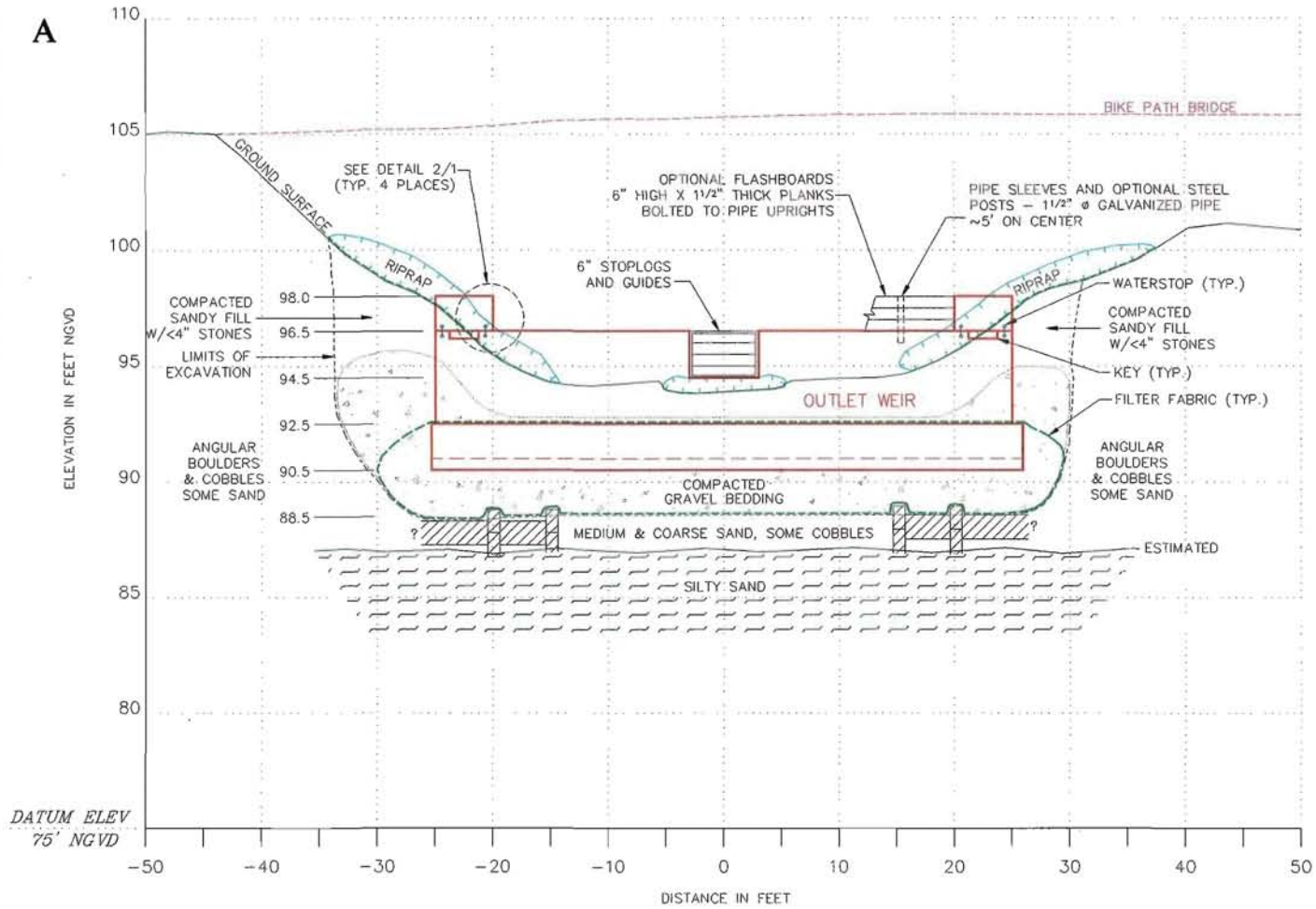
AS-BUILT SITE PLAN
OUTLET WEIR
PINE STREET CANAL SITE
BURLINGTON, VERMONT

THE JOHNSON COMPANY, INC.
Environmental Sciences and Engineering
100 STATE STREET MONTPELIER, VT 05602

WEIRAB1.dwg DATE: 12/27/01 DRAWN BY: TJK PROJECT: 1-0870-1 SCALE: 1"=10'

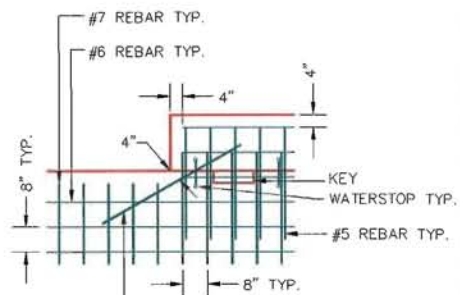
SOUTH

NORTH



CROSS SECTION OUTLET WEIR (1/1)

SCALE: 1"=10' HOR.; 1"=5' VER.; V.E. = 2:1



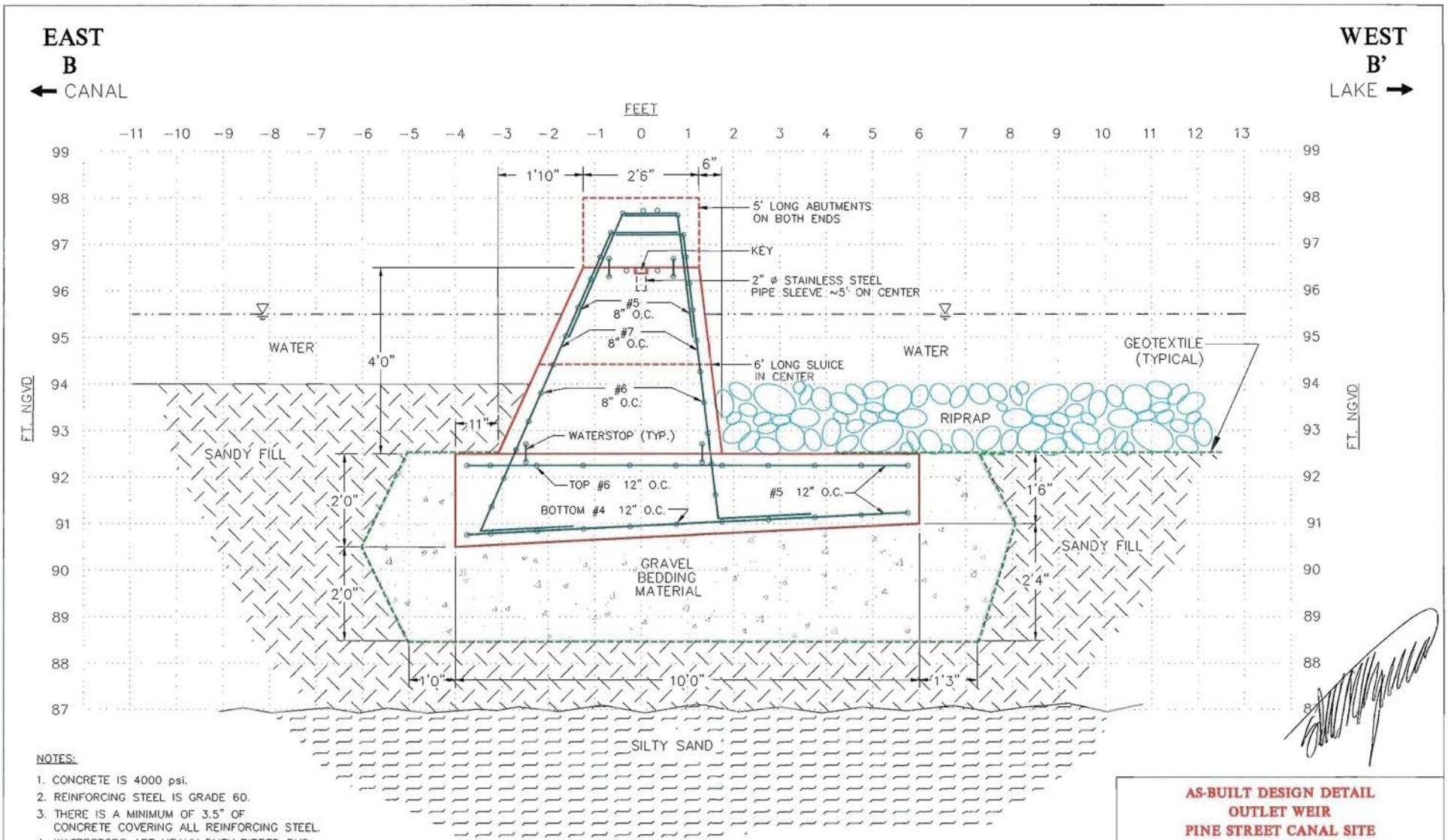
DETAIL STEP REINFORCEMENT (2/1)

SCALE: NONE

AS-BUILT CROSS SECTION
OUTLET WEIR
PINE STREET CANAL SITE
BURLINGTON, VERMONT

THE JOHNSON COMPANY, INC.
Environmental Sciences and Engineering
100 STATE STREET MONTPELIER, VT 05602

WEIRAB3.dwg DATE: 12/27/01 DRAWN BY: TJK PROJECT: 1-0870-1 SCALE: SHOWN



NOTES:

1. CONCRETE IS 4000 psi.
2. REINFORCING STEEL IS GRADE 60.
3. THERE IS A MINIMUM OF 3.5" OF CONCRETE COVERING ALL REINFORCING STEEL.
4. WATERSTOPS ARE HEAVY DUTY RIBBED PVC.
5. 24" OVERLAP ON ALL REBAR SPLICES EXCEPT HORIZONTAL REBAR AT TOP OF WEIR.
6. EXPOSED EDGES CHAMFERED WITH 3/4" BEVEL.

AS-BUILT DESIGN DETAIL
OUTLET WEIR
PINE STREET CANAL SITE
BURLINGTON, VERMONT

THE JOHNSON COMPANY, INC.
Environmental Sciences and Engineering
100 STATE STREET MONTPELIER, VT 05602

WEIRAB2.dwg | DATE: 12/27/01 DRAWN BY: TJK | PROJECT: 1-0870-1 SCALE: 1" = 2'

APPENDIX 7

FINAL CONSTRUCTION INSPECTION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

January 16, 2002

Thor Helgason, PE
Project Coordinator
de maximis, inc.
135 Beaver Street
Waltham, MA 02452

RE: Pine Street Barge Canal Superfund Site
Phase 1A Final Inspection

Dear Mr. Helgason:

As you know, EPA conducted a final inspection of Phase 1A on November 1, 2001. No deficiencies in the weir were noted at that time.

We expect to receive the Phase 1A construction completion report no later than Thursday, January 31, 2002.

I can be reached at 617/918-1348 should you have any questions.

Sincerely,

Karen M. Lumino

Karen M. Lumino
Remedial Project Manager

APPENDIX 8

PHOTOGRAPHS

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
September 26, 2001
K:\1-0870-1\photos\weirphotos\9-26-01\photo 2. wpd.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
September 26, 2001

K:\1-0870-1\photos\weirphotos\9-26-01\photo 6.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
September 26, 2001

K:\1-0870-1\photos\weirphotos\9-26-01\photo 10.wpd

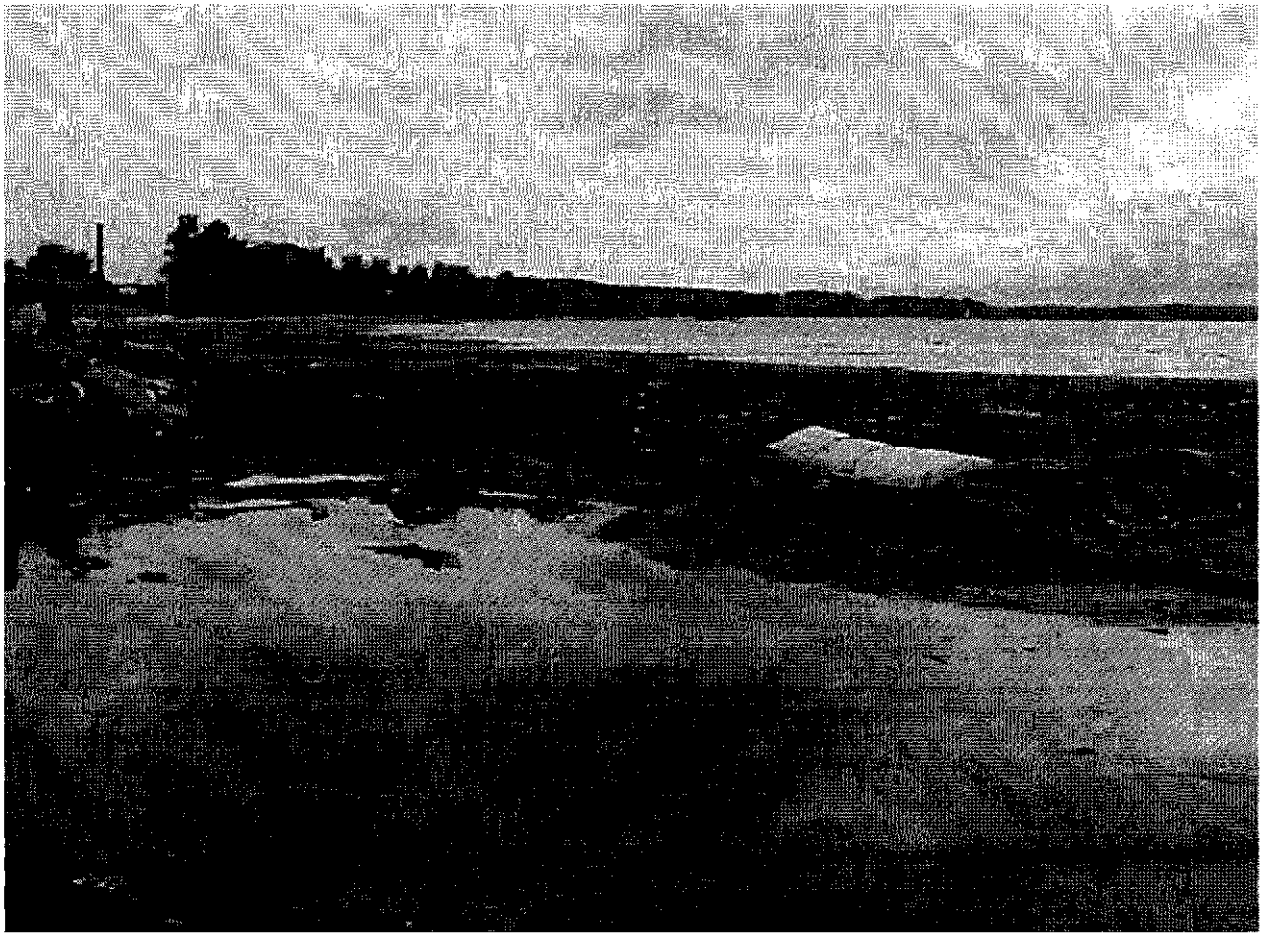
Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
September 26, 2001
K:\1-0870-1\photos\weirphotos\9-26-01\photo 11.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
September 26, 2001

K:\1-0870-1\photos\weirphotos\9-26-01\photo 13 wpd September 27, 2001

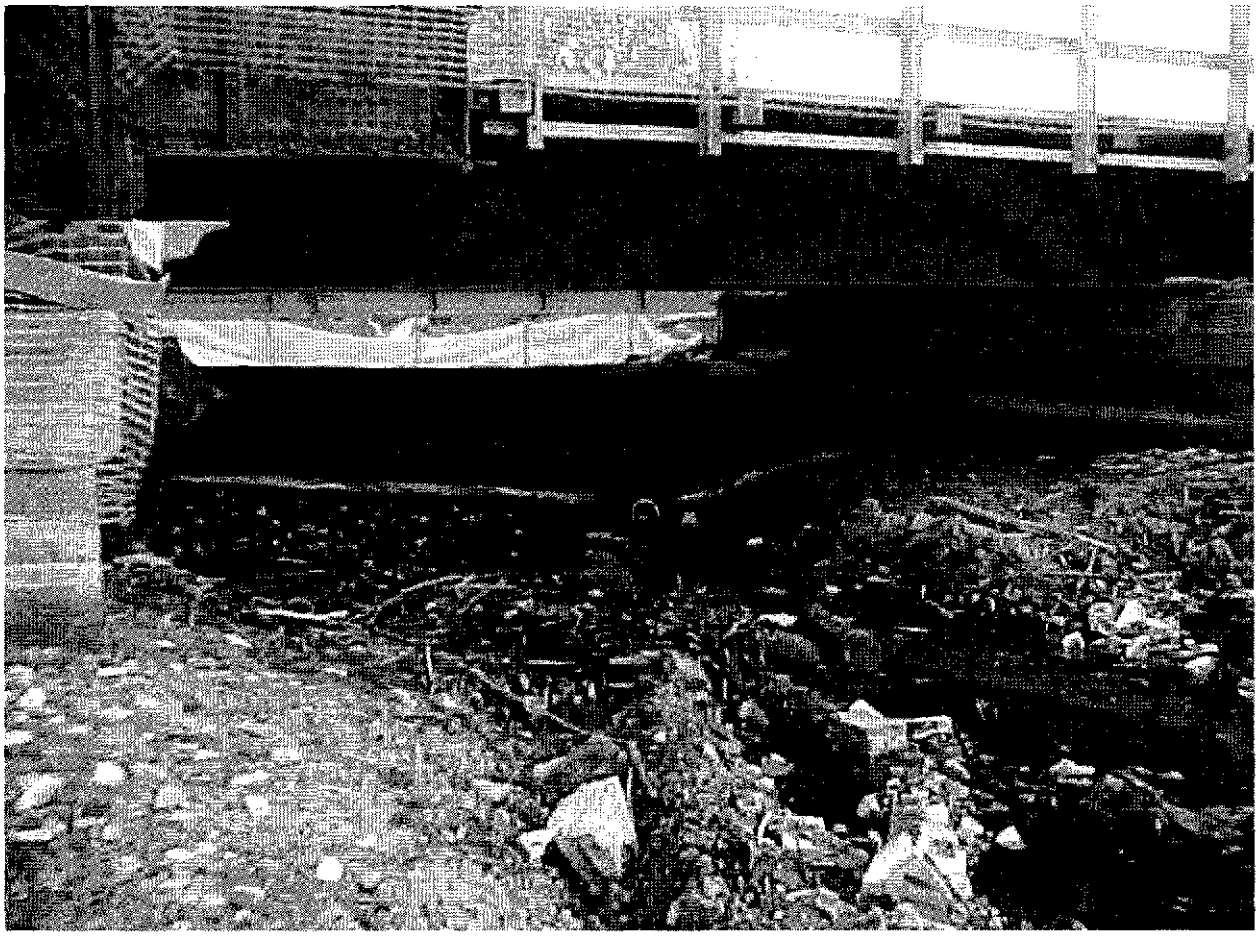
Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 5, 2001

K:\1-0870-1\photos\weirphotos\10-05-01pm\photo 4.wpd



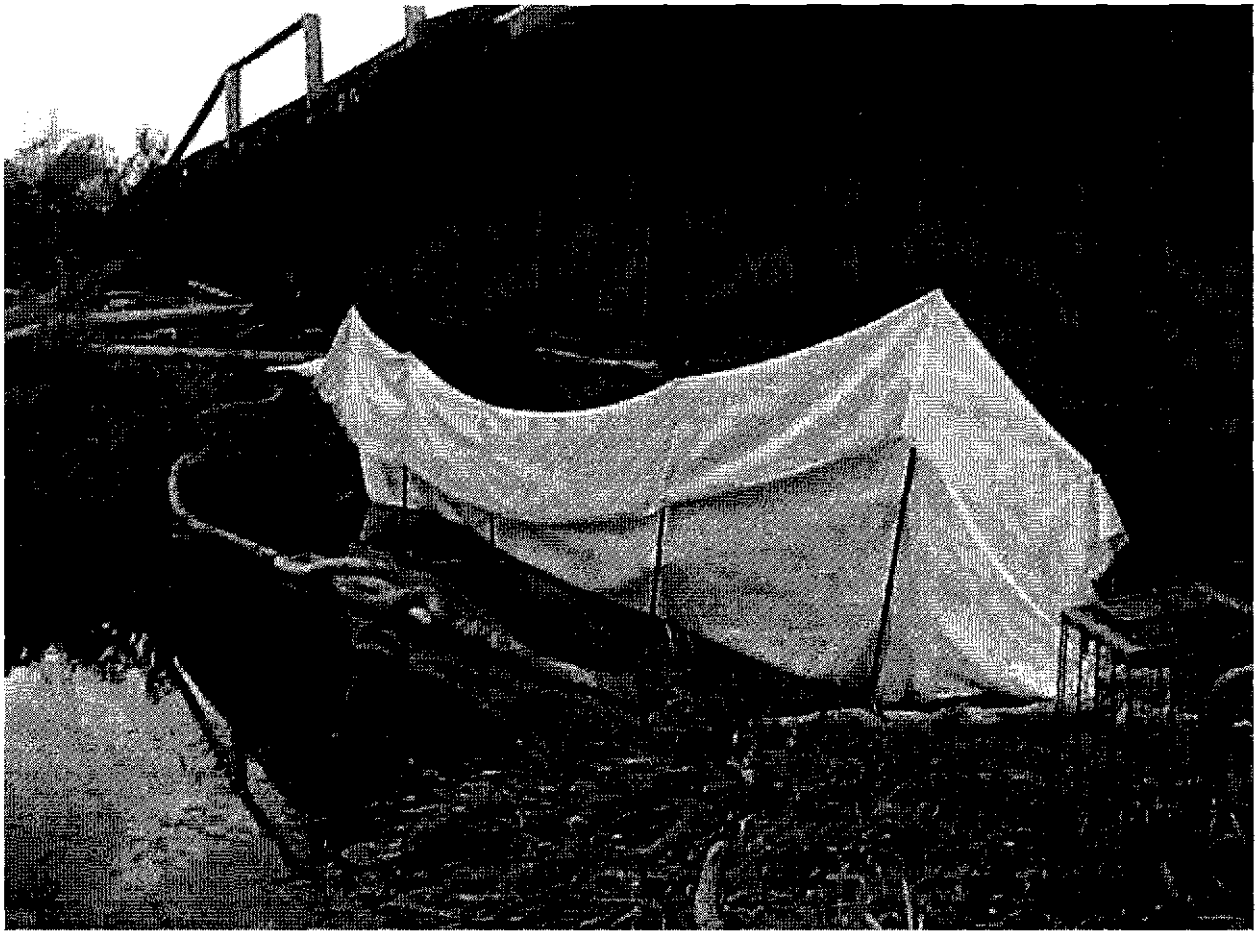
Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 5, 2001

K:\1-0870-1\photos\weirphotos\10-05-01pm\photo 6.wpd



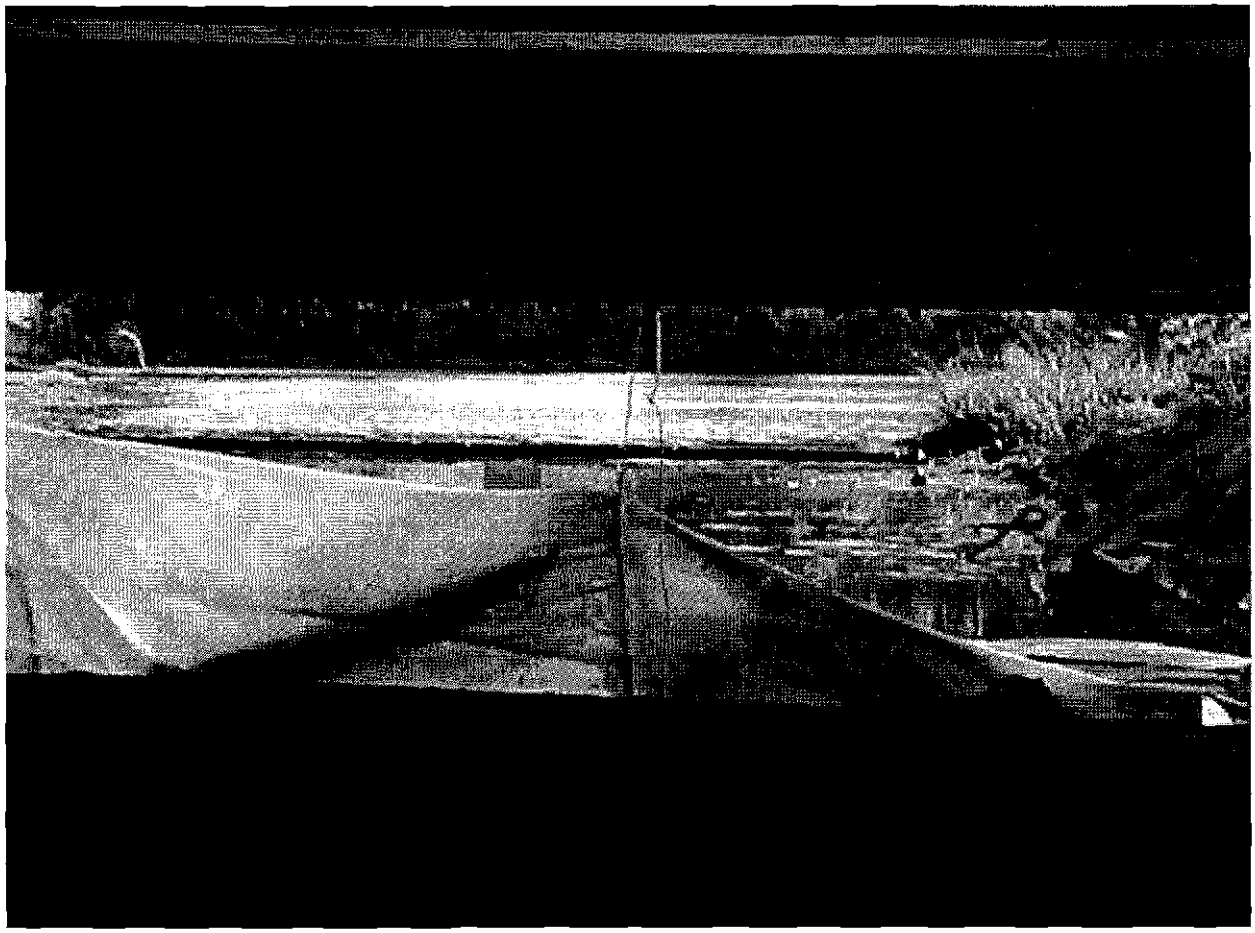
Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 5, 2001

K:\1-0870-1\photos\weirphotos\10-05-01pm\photo 7.wpd



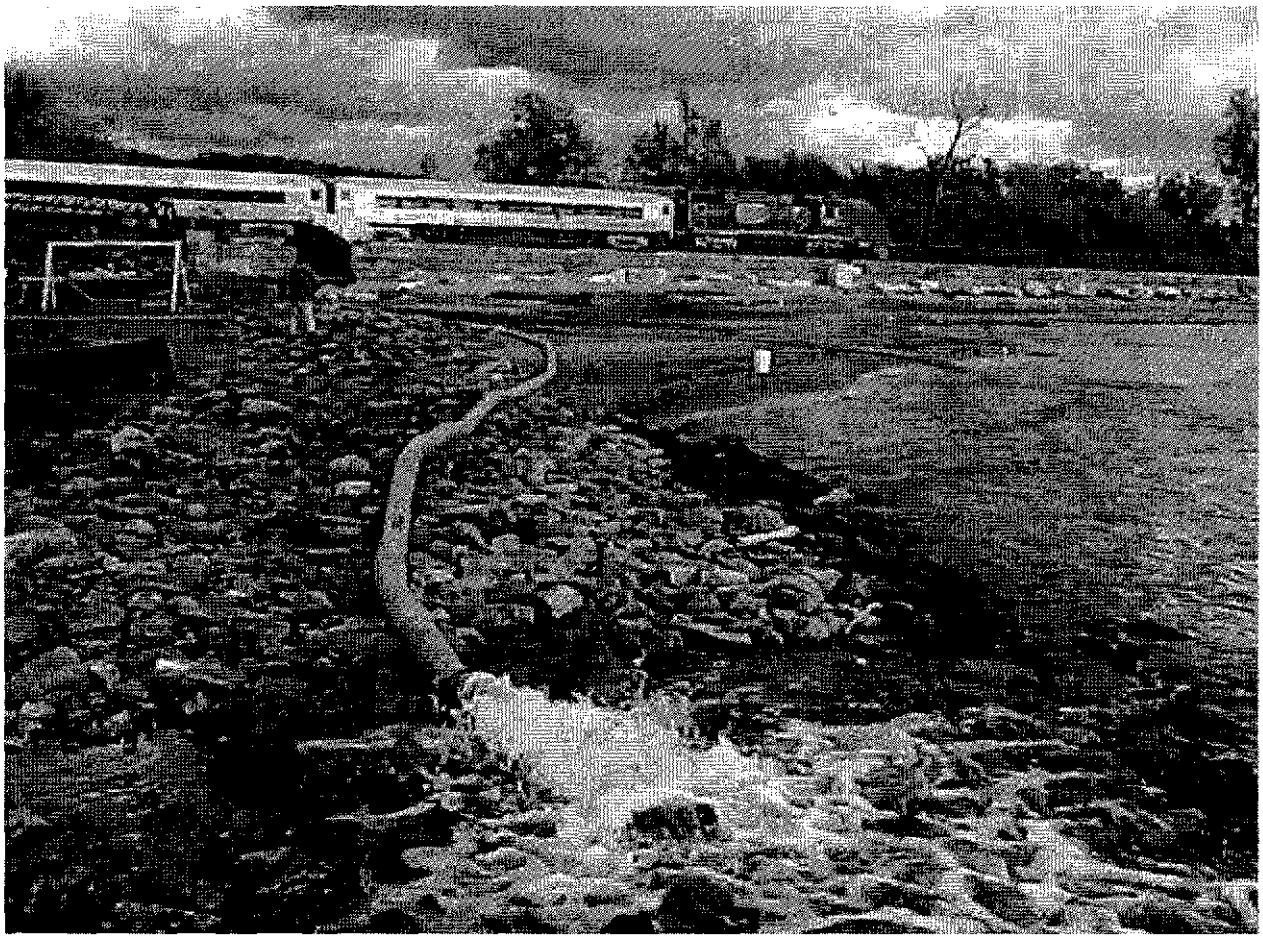
Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 5, 2001

K:\1-0870-1\photos\weirphotos\10-05-01pm\photo 13.wpd



Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction

K:\1-0870-1\photos\weirphotos\B - John Hunt dimaximis\photo 31.wpd



Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 8 & 9, 2001

K:\1-0870-1\photos\weirphotos\10-8 & 10-9-01\photo 28.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 8 & 9, 2001

K:\1-0870-1\photos\weirphotos\10-8 & 10-9-01\photo 30.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 8 & 9, 2001

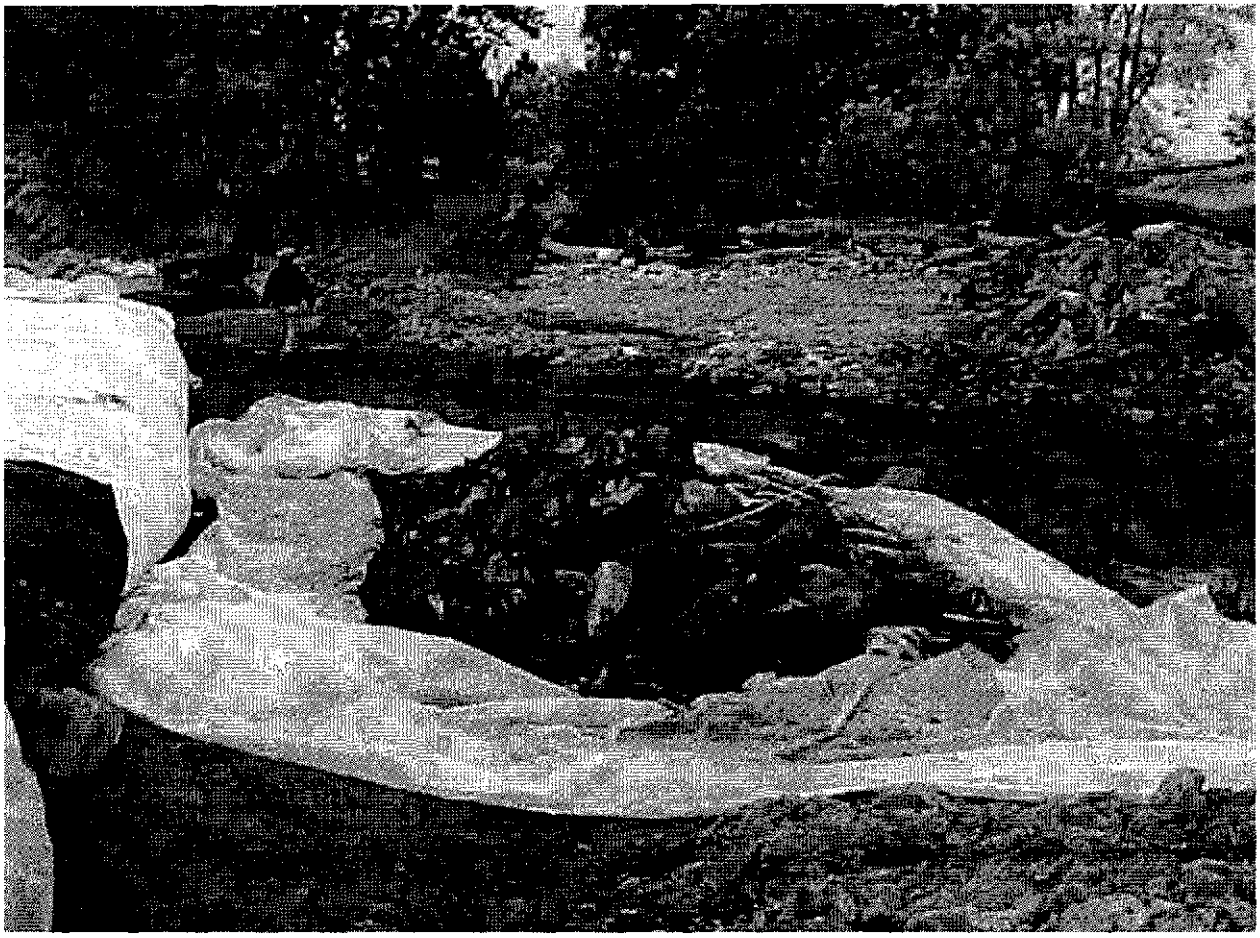
K:\1-0870-1\photos\weirphotos\10-8 & 10-9-01\photo 35.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 8 & 9, 2001

K:\1-0870-1\photos\weirphotos\10-8 & 10-9-01\photo 36.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 8 & 9, 2001

K:\1-0870-1\photos\weirphotos\10-8 & 10-9-01\photo 38.wpd



Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 8 & 9, 2001
K:\1-0870-1\photos\weirphotos\10-8 & 10-9-01\photo 31.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction

K:\1-0870-1\photos\weirphotos\D - John Hunt dimaximis\photo gg.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction

K:\1-0870-1\photos\weirphotos\C - John Hunt dimaximis\photo 9.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction

K:\1-0870-1\photos\weirphotos\B - John Hunt dimaximis\photo 22.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction

K:\1-0870-1\photos\weirphotos\E - John Hunt dimaximis\photo b.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction

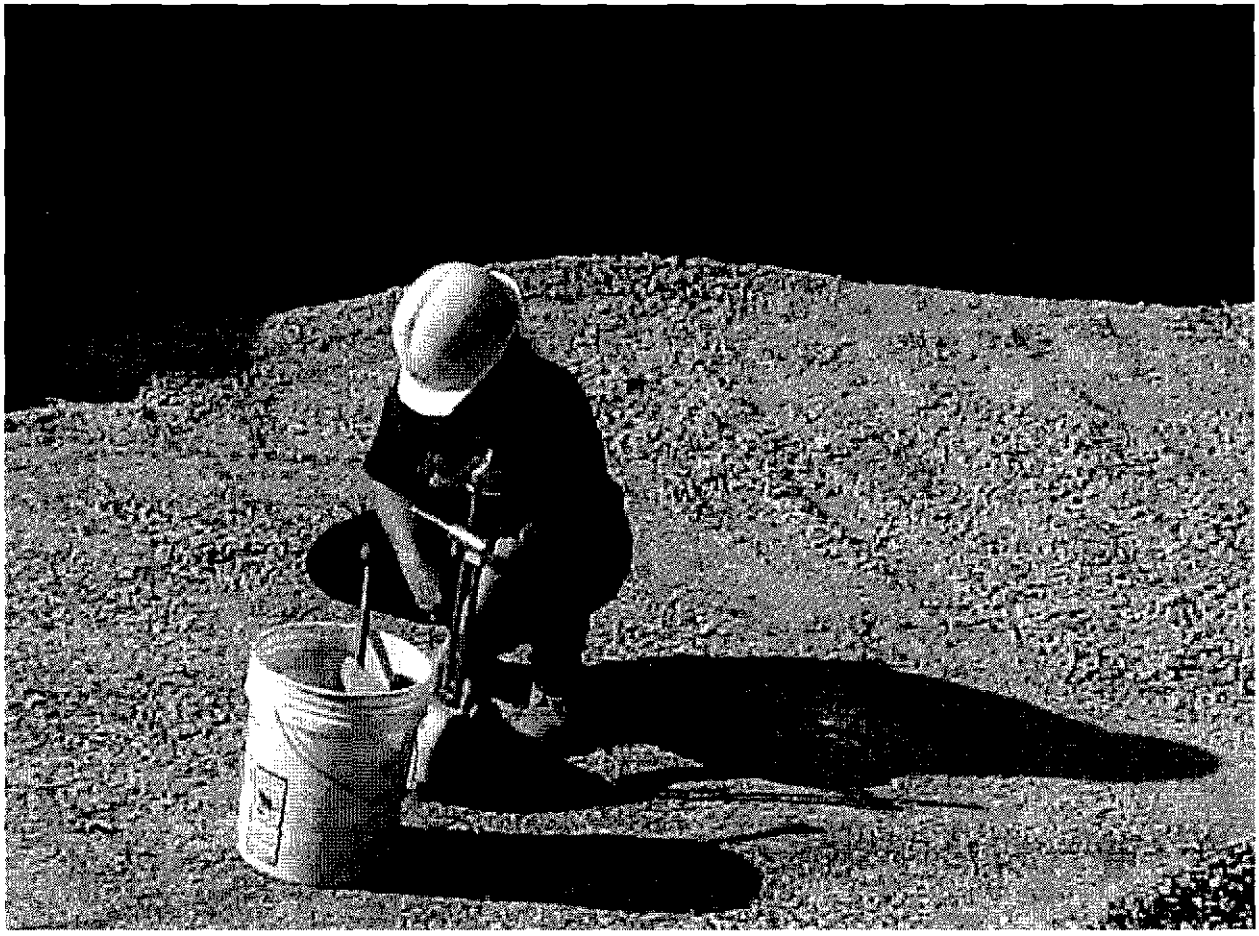
K:\1-0870-1\photos\weirphotos\E - John Hunt dimaximis\photo g.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction

K:\1-0870-1\photos\weirphotos\E - John Hunt dimaximis\photo k.wpd

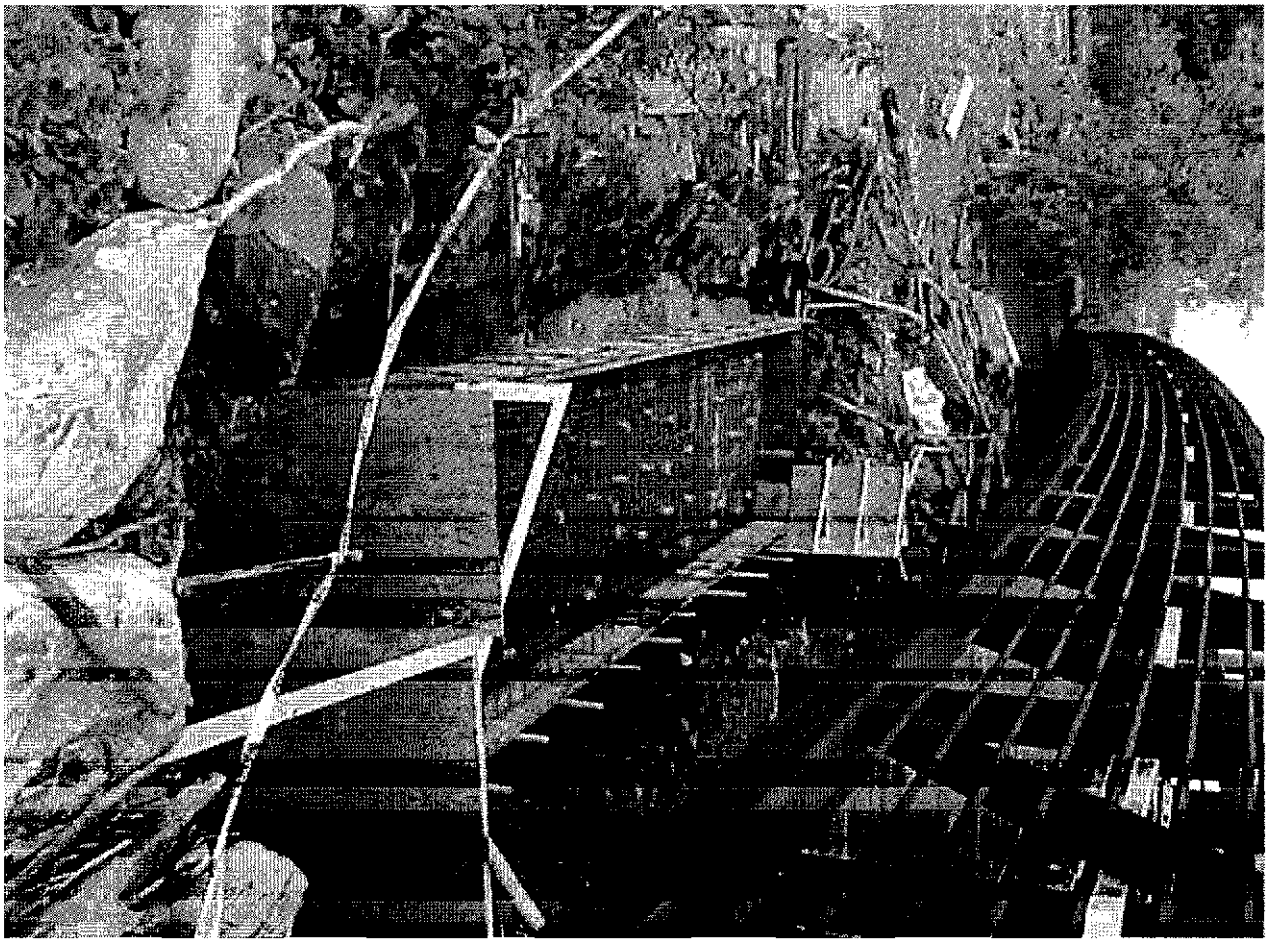
Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction

K:\1-0870-1\photos\weirphotos\E - John Hunt dimaximis\photo h.wpd



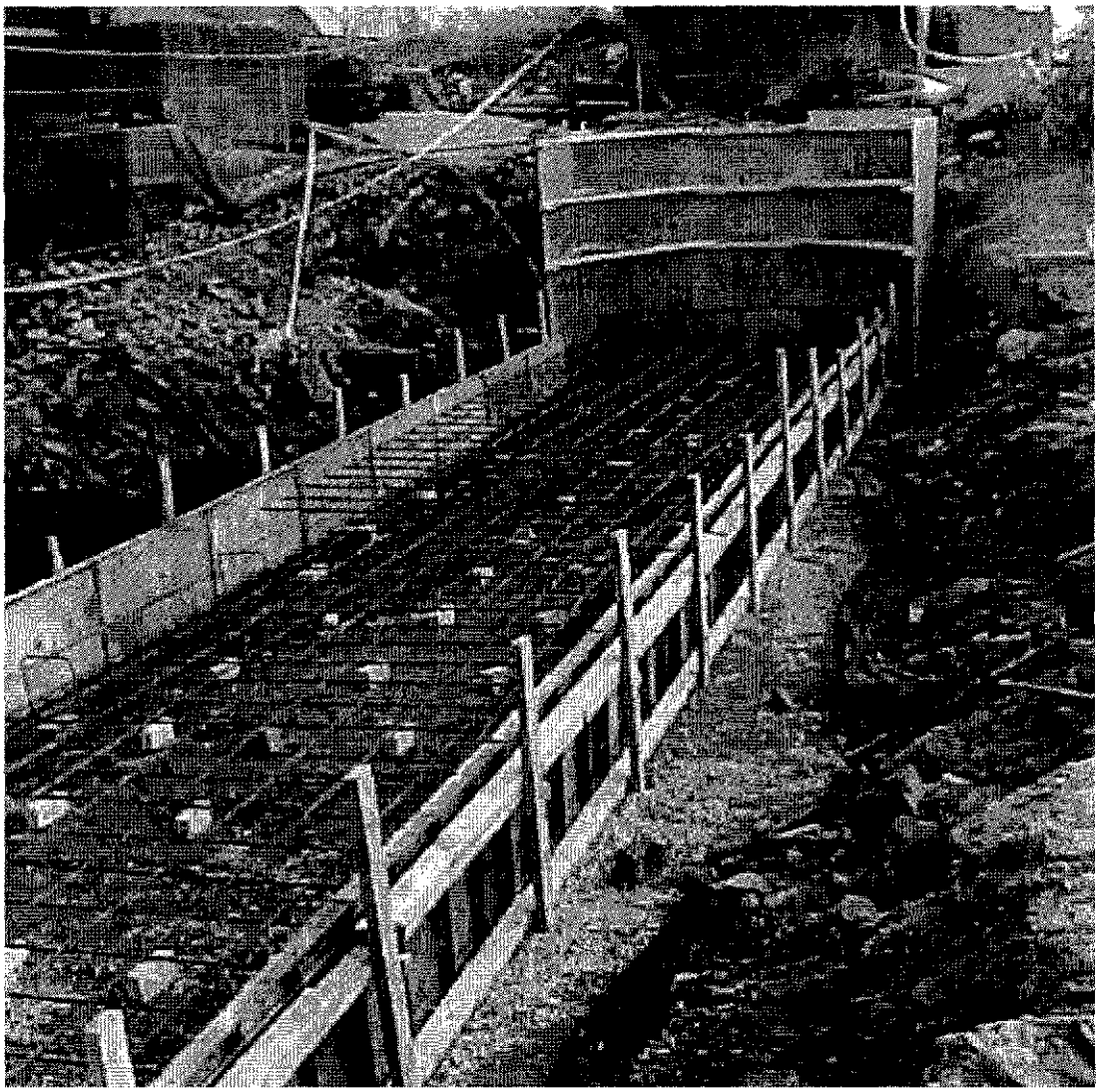
Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction

K:\1-0870-1\photos\weirphotos\A - John Hunt dimaximis\photo ddd.wpd



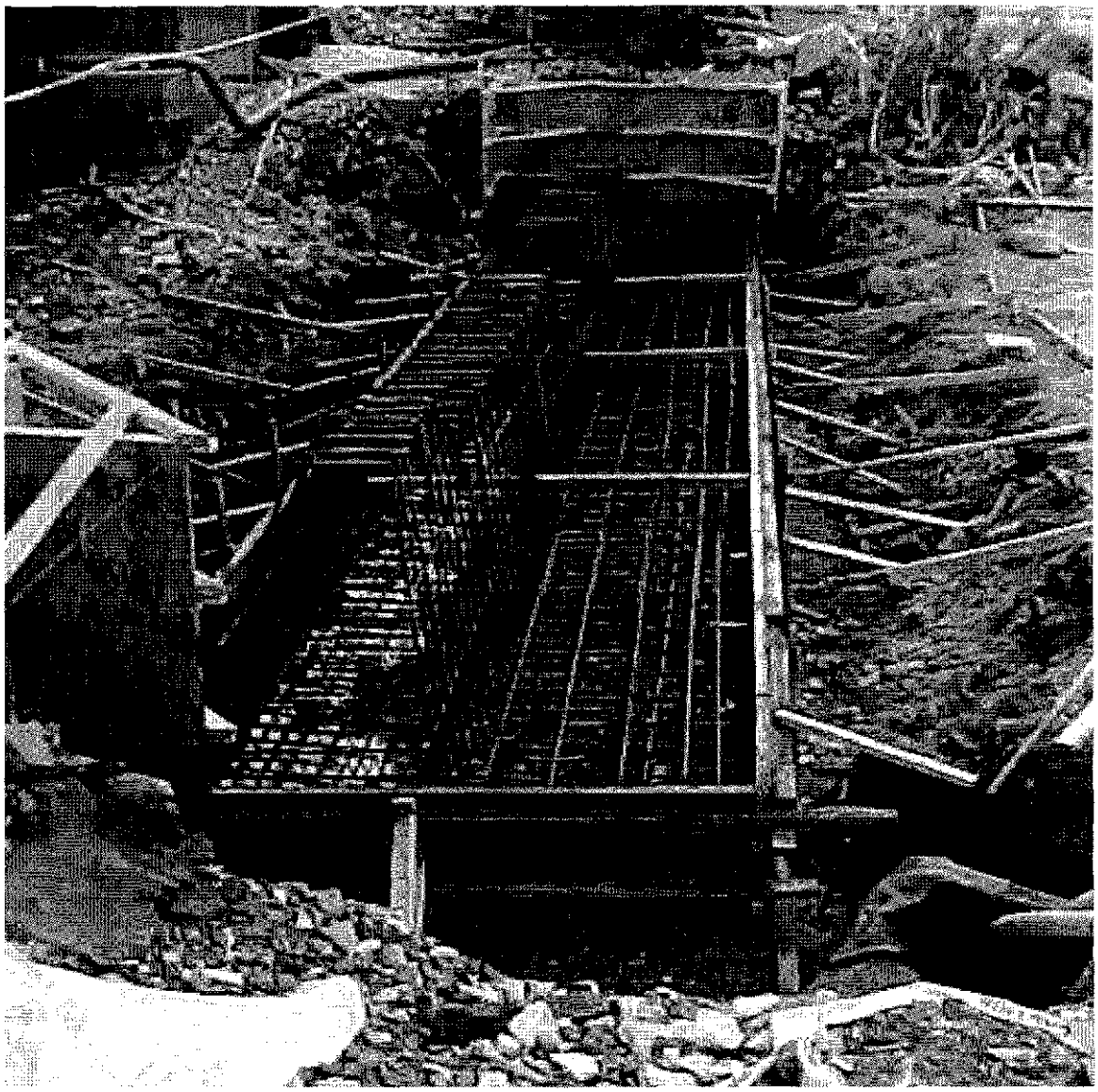
Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 19, 2001

K:\1-0870-1\photos\weirphotos\10-19-01 A\photo 1.wpd

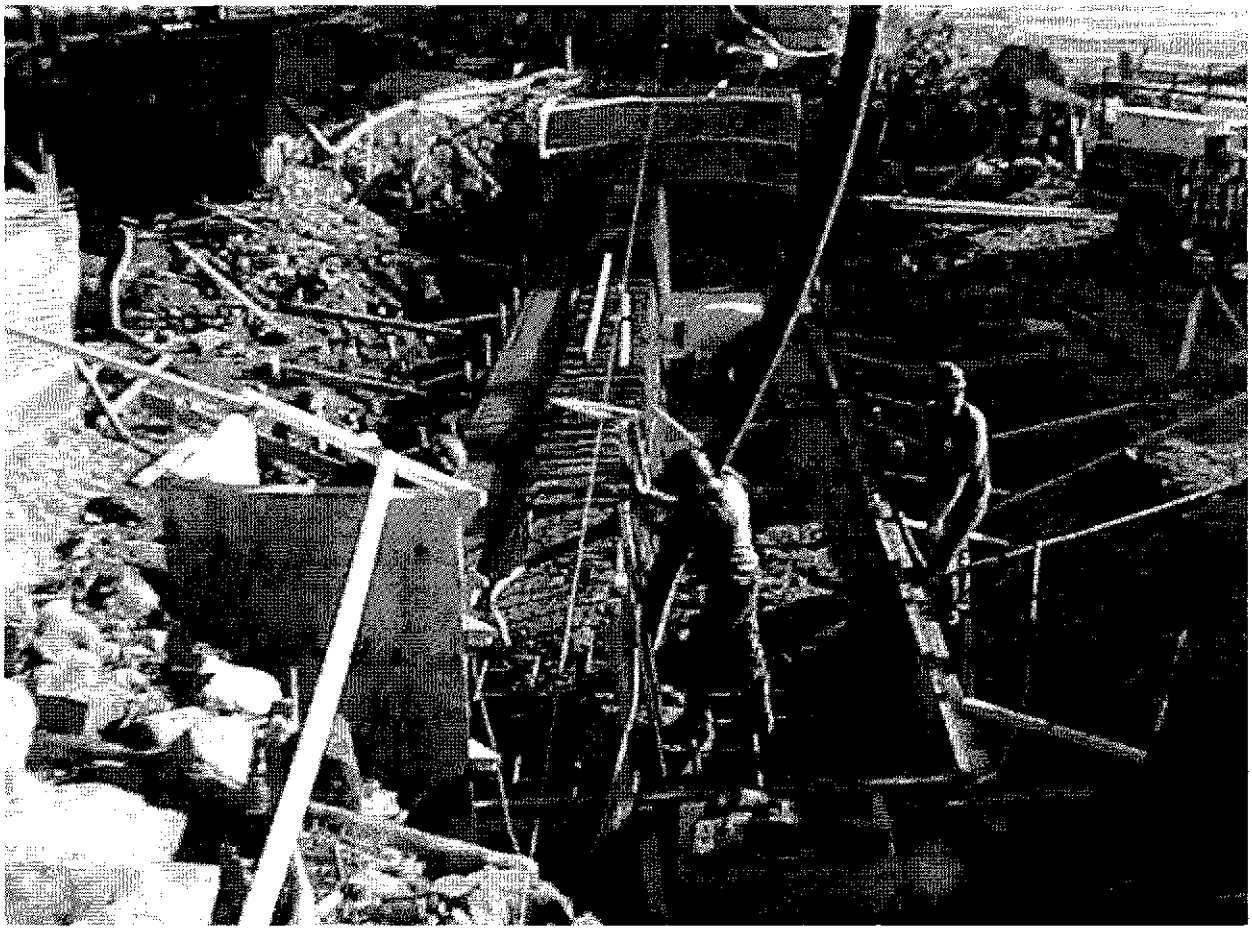


Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 19, 2001

K:\1-0870-1\photos\weirphotos\10-19-01 A\photo 6.wpd



Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 19, 2001
K:\1-0870-1\photos\weirphotos\10-19-01 A\photo 10.wpd

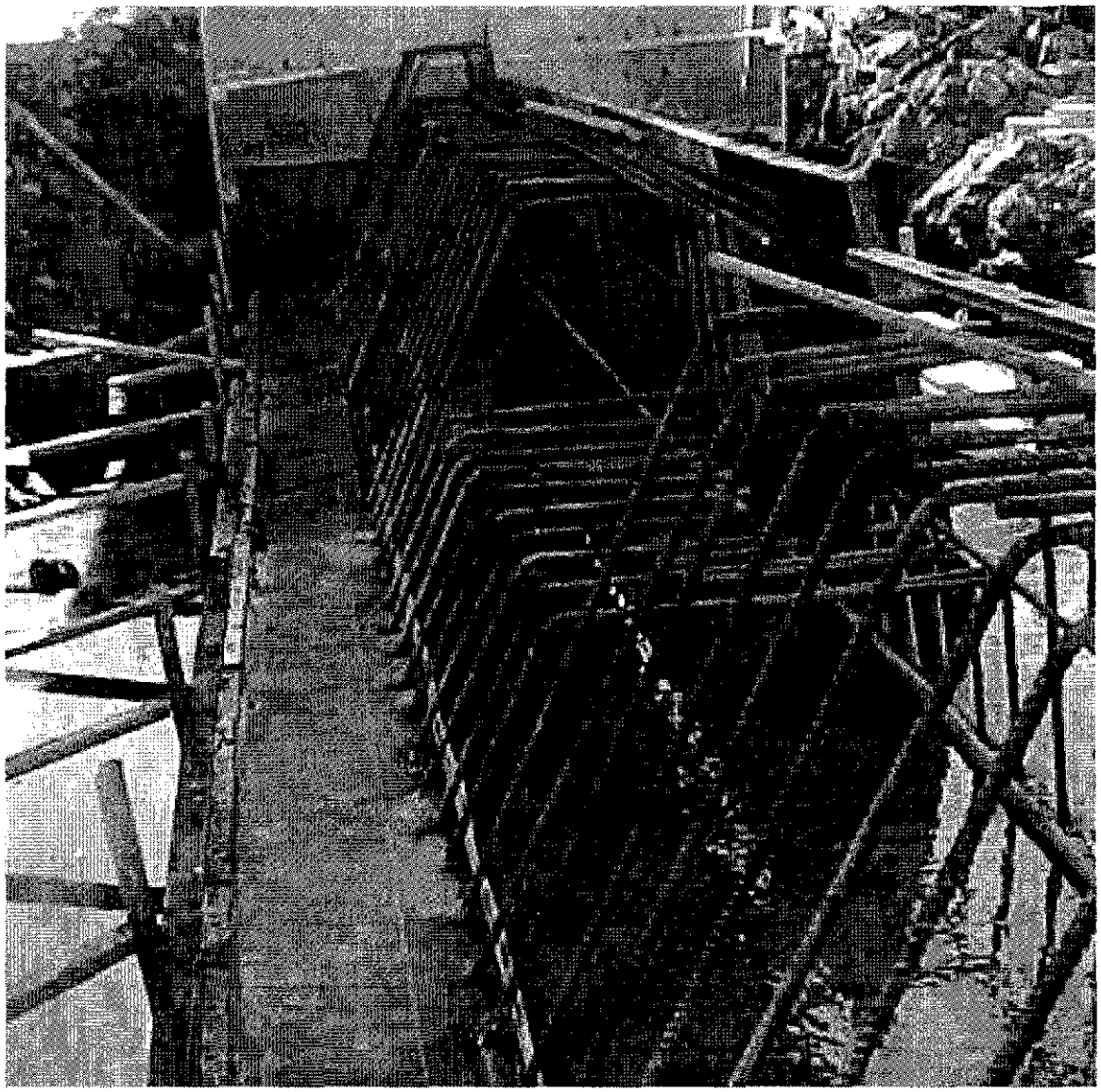


Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 17 & 18, 2001

K:\1-0870-1\photos\weirphotos\10-17 & 10-18-01\photo 2.wpd

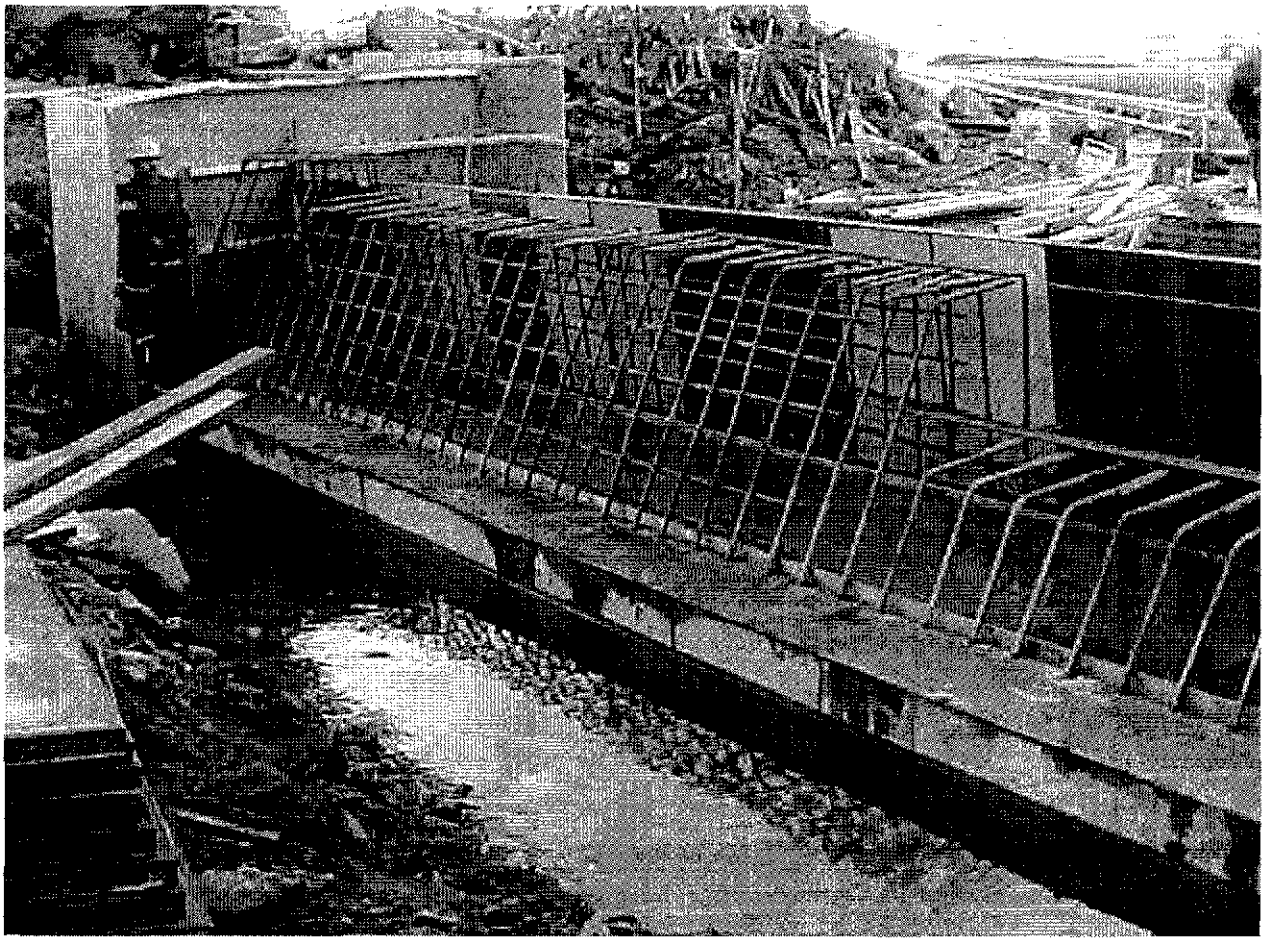
Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 17 & 18, 2001

K:\1-0870-1\photos\weirphotos\10-17 & 10-18-01\phto 6.wpd



Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 17 & 18, 2001

K:\1-0870-1\photos\weirphotos\10-17 & 10-18-01\photo 7.wpd

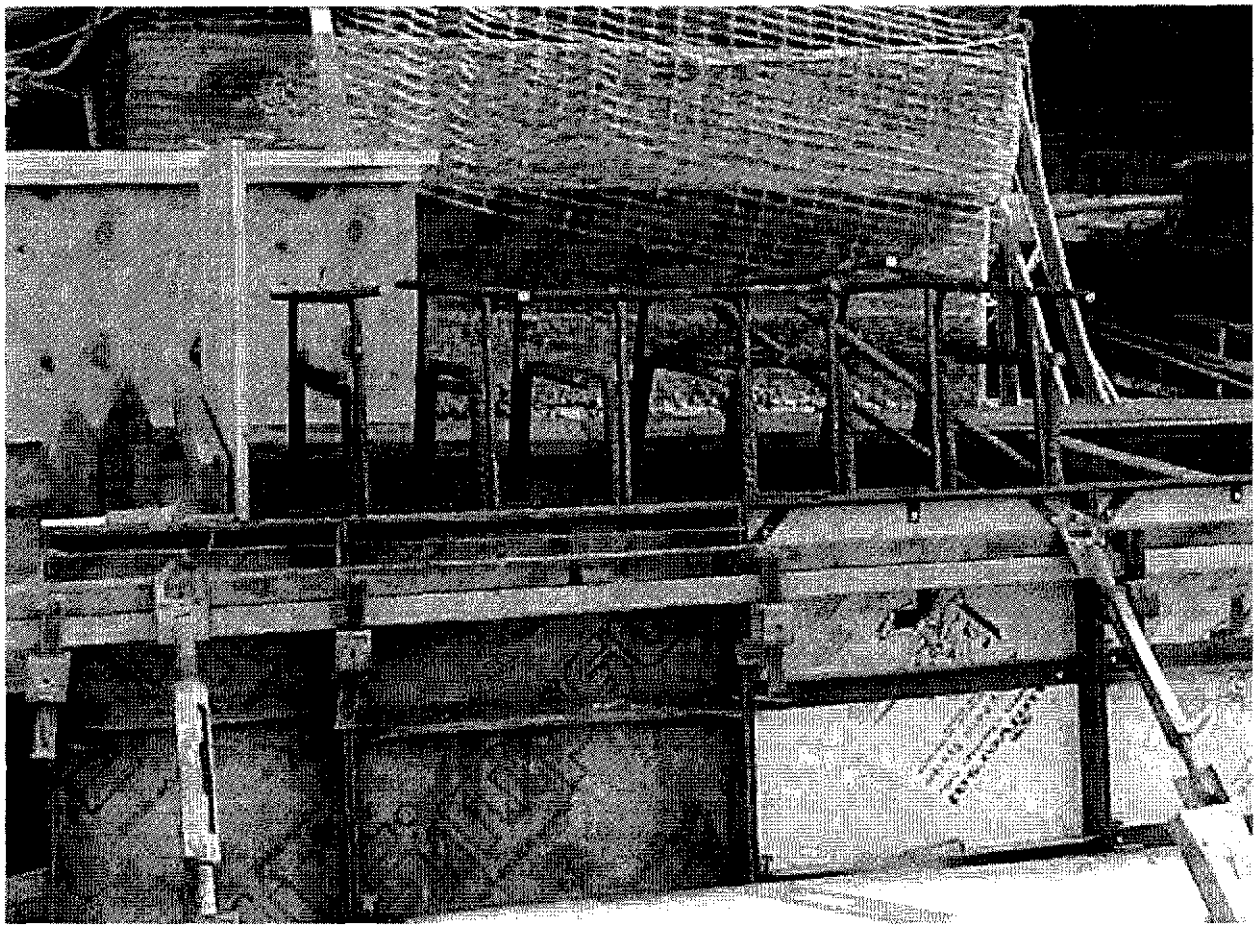


Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 17 & 18, 2001

K:\1-0870-1\photos\weirphotos\10-17 & 10-18-01\photo 8.wpd

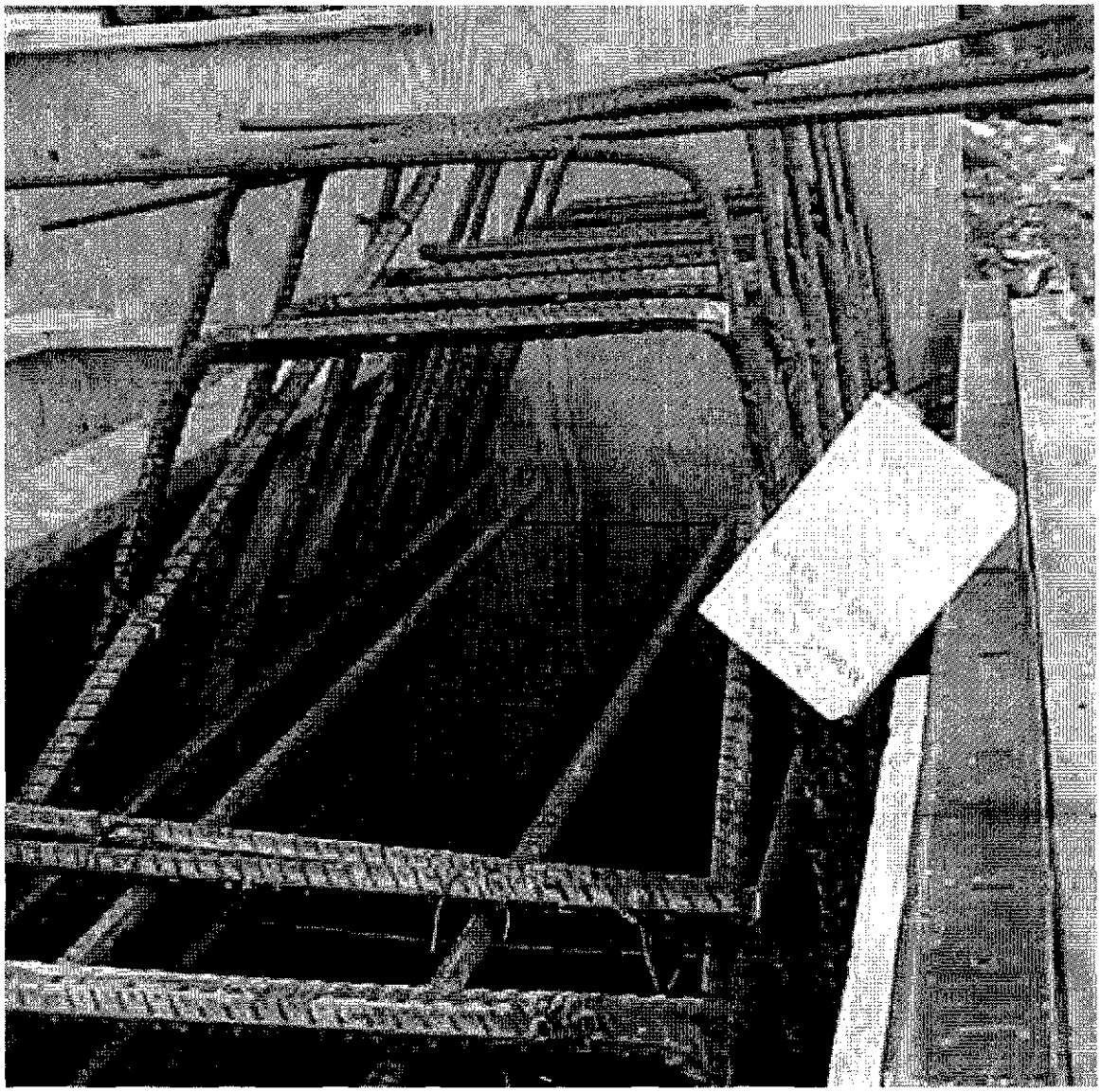
Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 19, 2001

K:\1-0870-1\photos\weirphotos\10-19-01 weir stem\photo 1.wpd



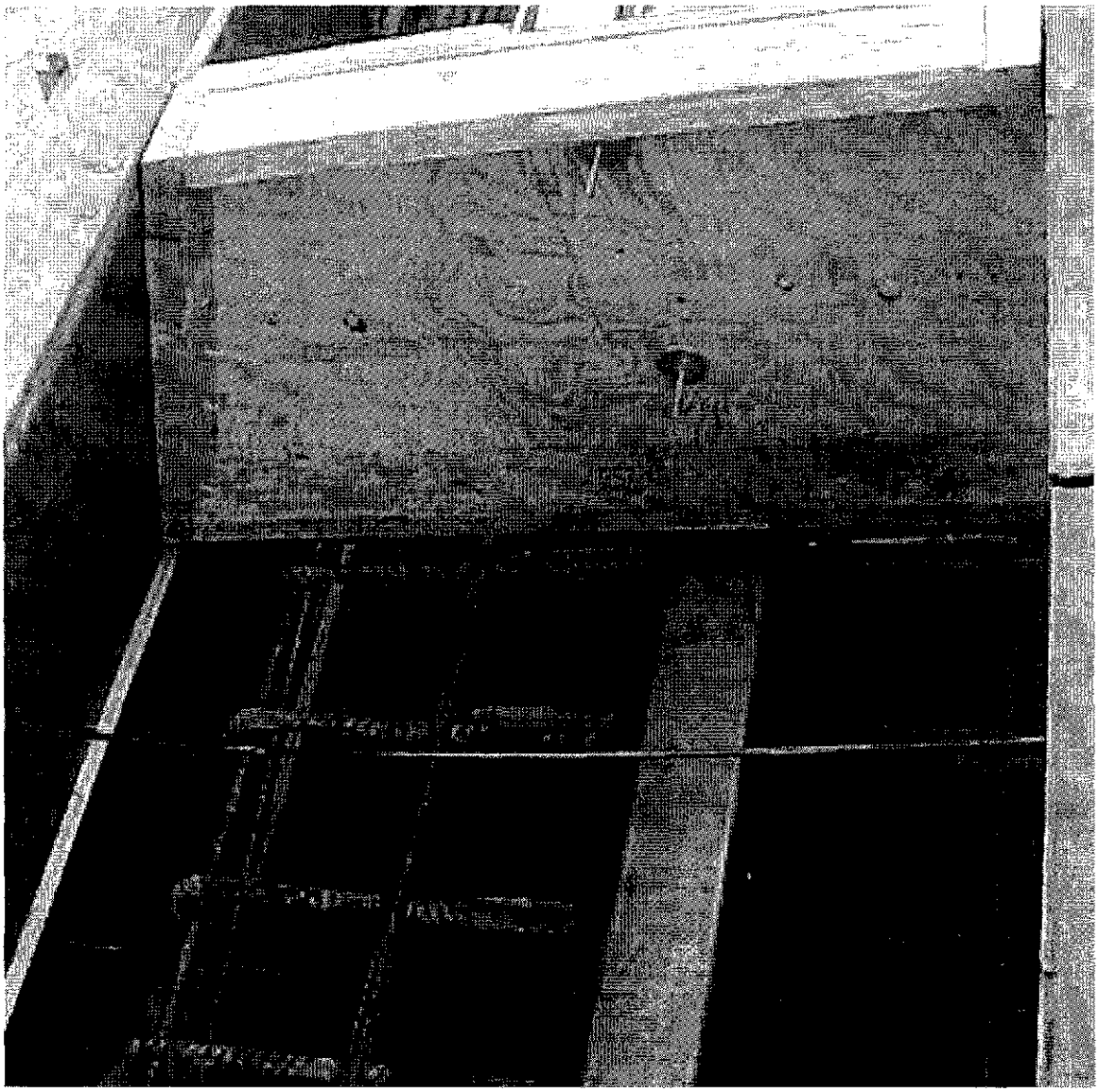
Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 19, 2001

K:\1-0870-1\photos\weirphotos\10-19-01 weir stem\photo 11.wpd



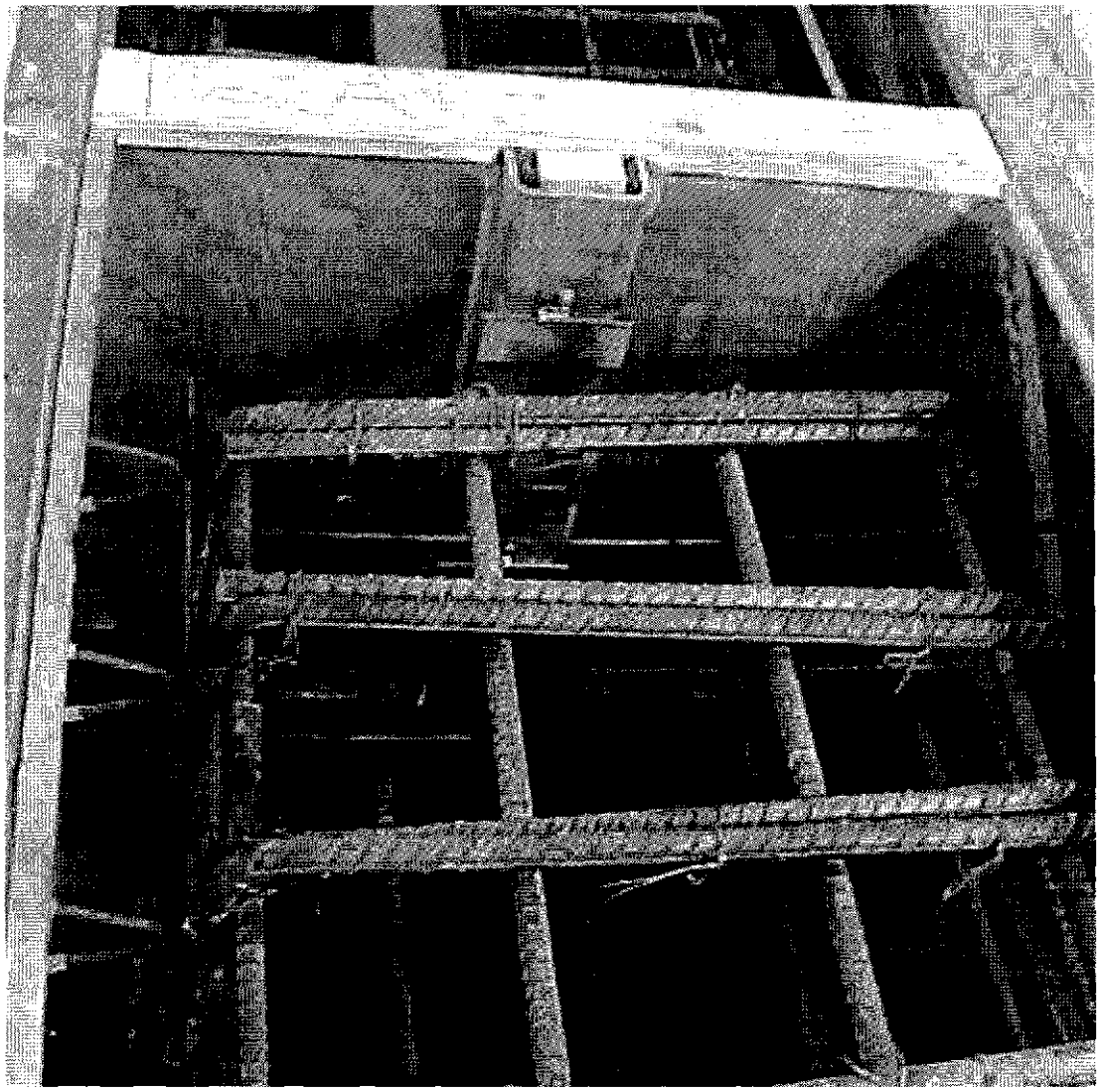
Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 19, 2001

K:\1-0870-1\photos\weirphotos\10-19-01 weir stem\photo 2.wpd



Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 19, 2001

K:\1-0870-1\photos\weirphotos\10-19-01 weir stem\photo 4.wpd

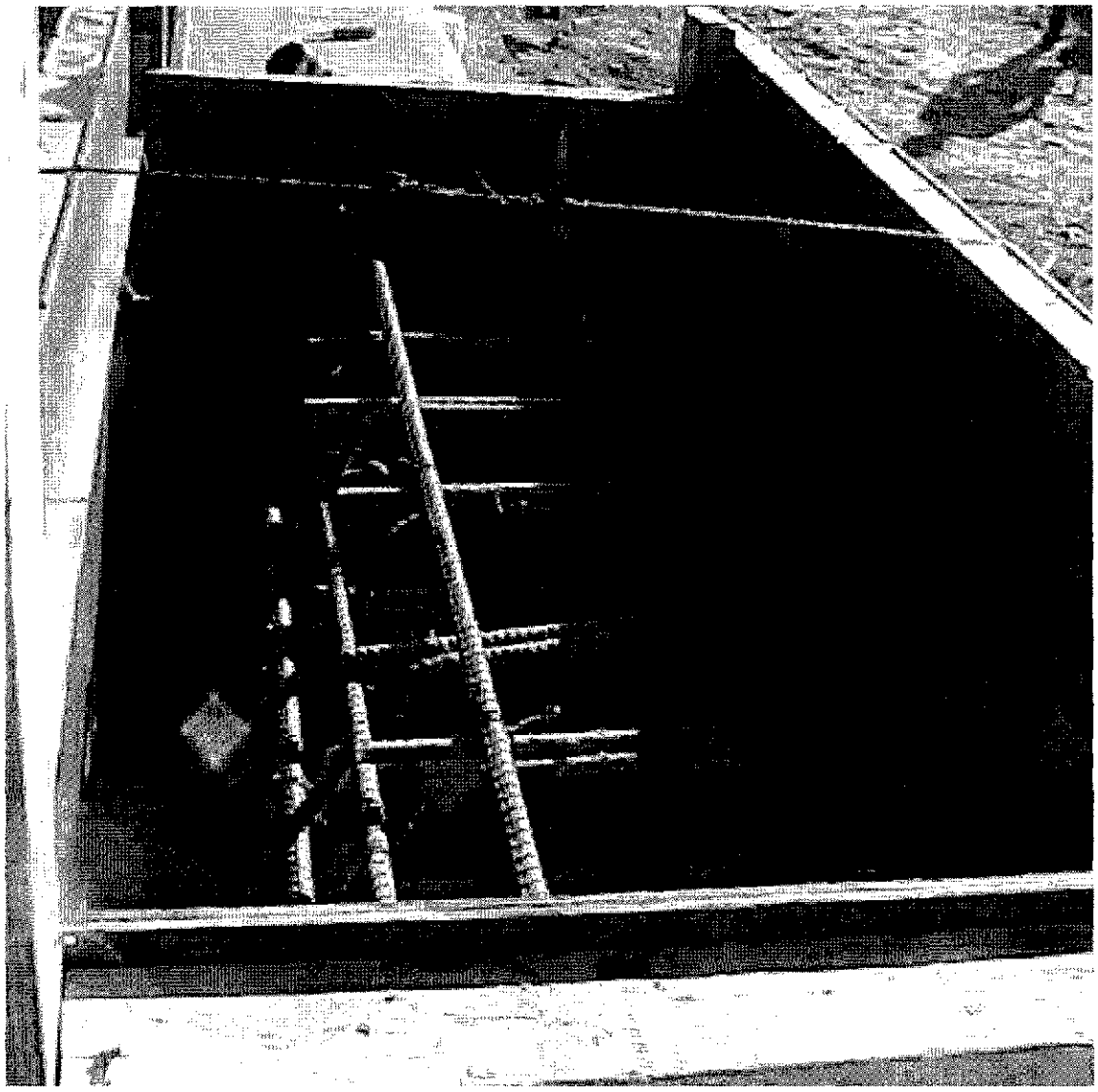


Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 19, 2001

K:\1-0870-1\photos\weirphotos\10-19-01 weir stem\photo 5.wpd

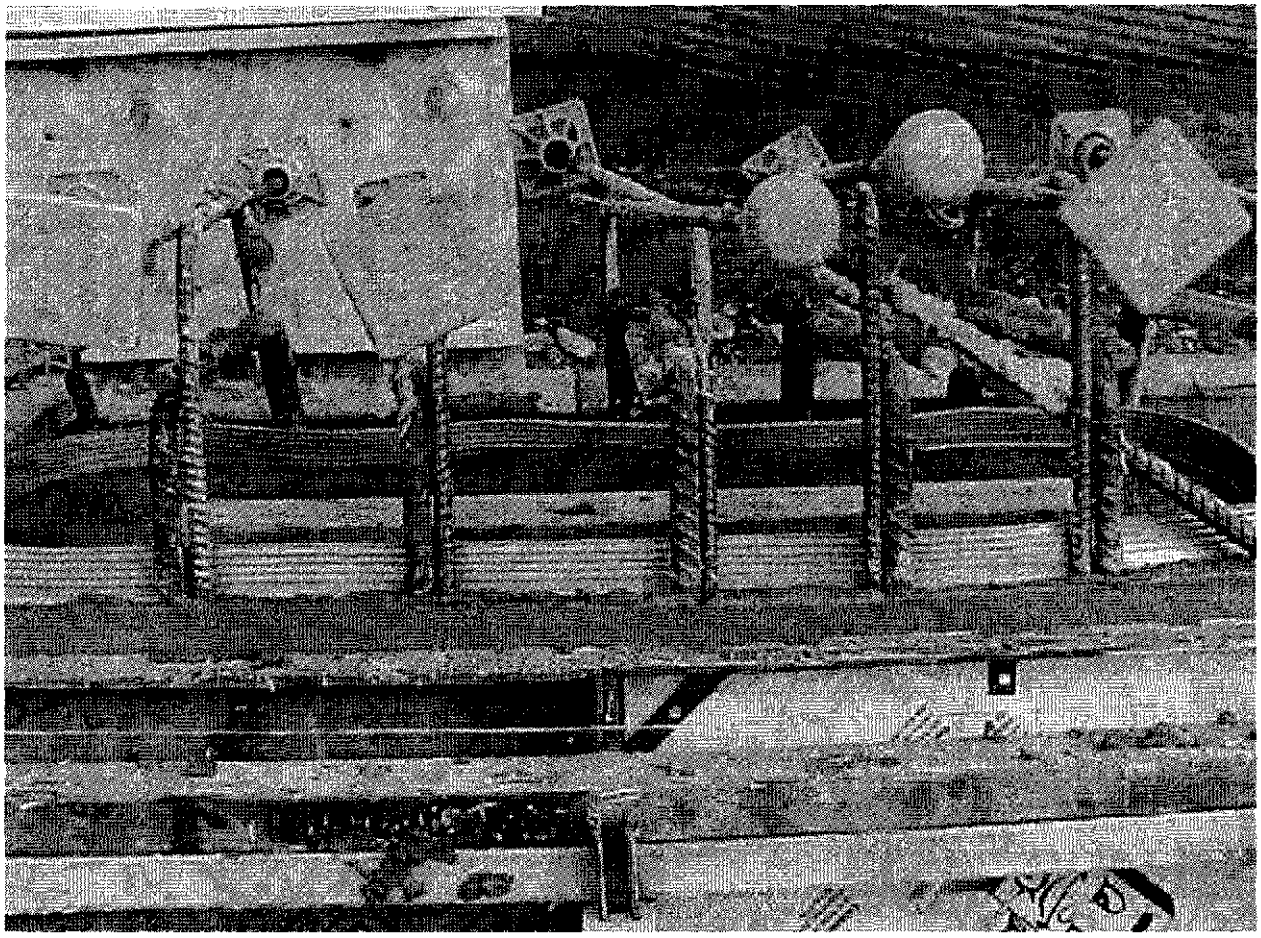
Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 19, 2001

K:\1-0870-1\photos\weirphotos\10-19-01 weir stem\photo 9.wpd



Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 22, 2001

K:\1-0870-1\photos\weirphotos\10-22-01 weir\photo 12.wpd



Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 19, 2001

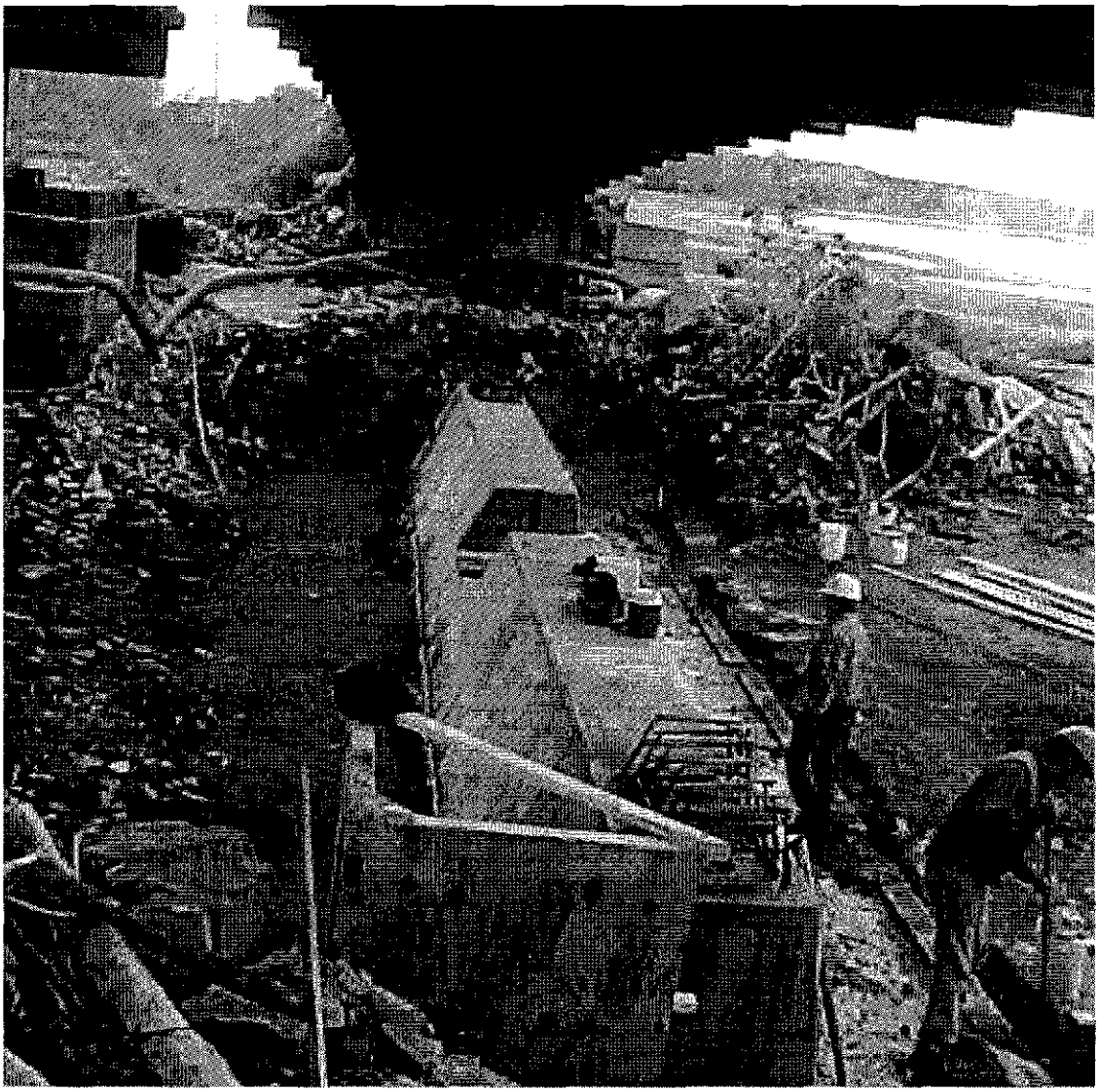
K:\1-0870-1\photos\weirphotos\10-19-01 weir stem\photo 18.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 22, 2001

K:\1-0870-1\photos\weirphotos\10-22-01 weir\photo 1.wpd

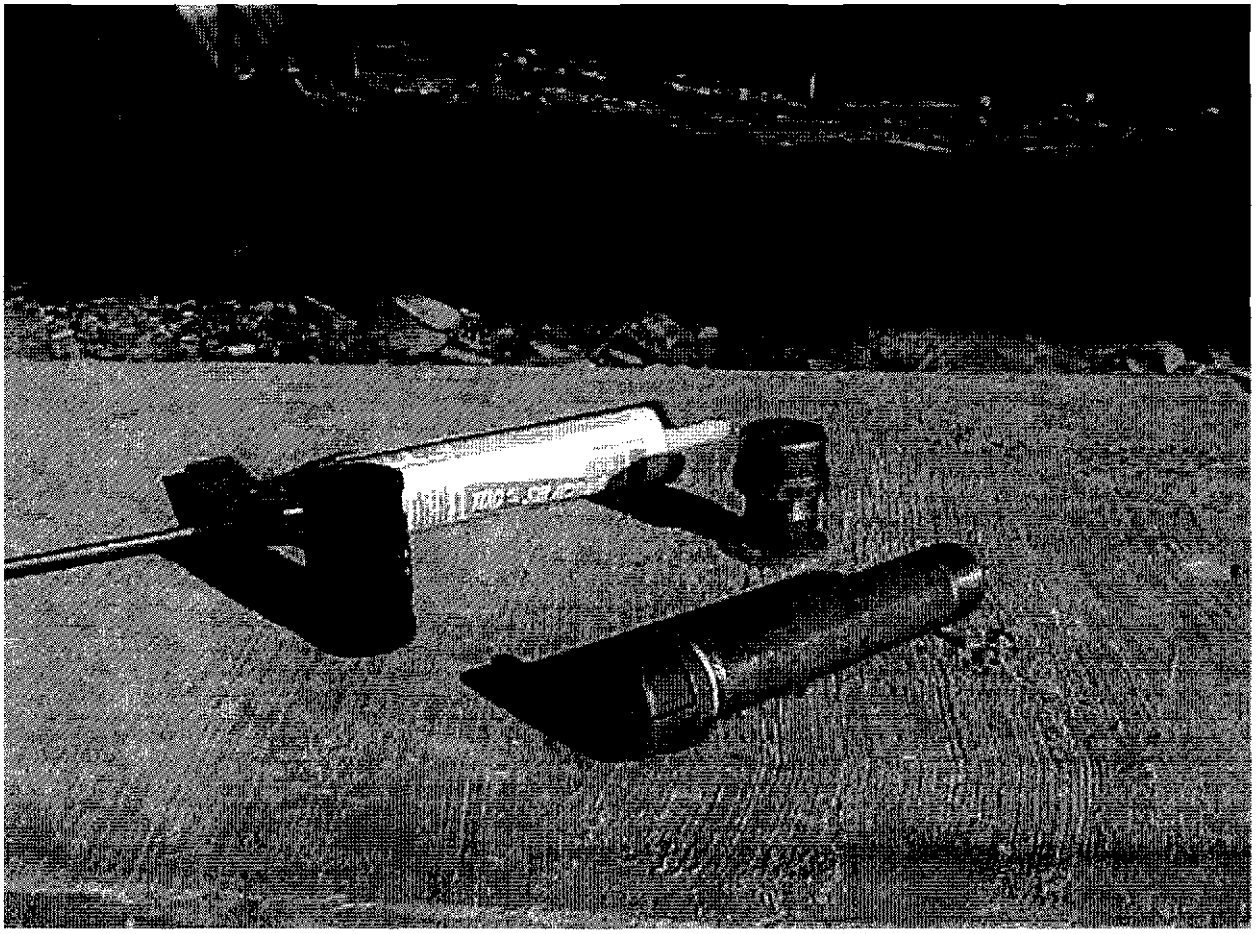
Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 22, 2001

K:\1-0870-1\photos\weirphotos\10-22-01 weir\photo 2.wpd



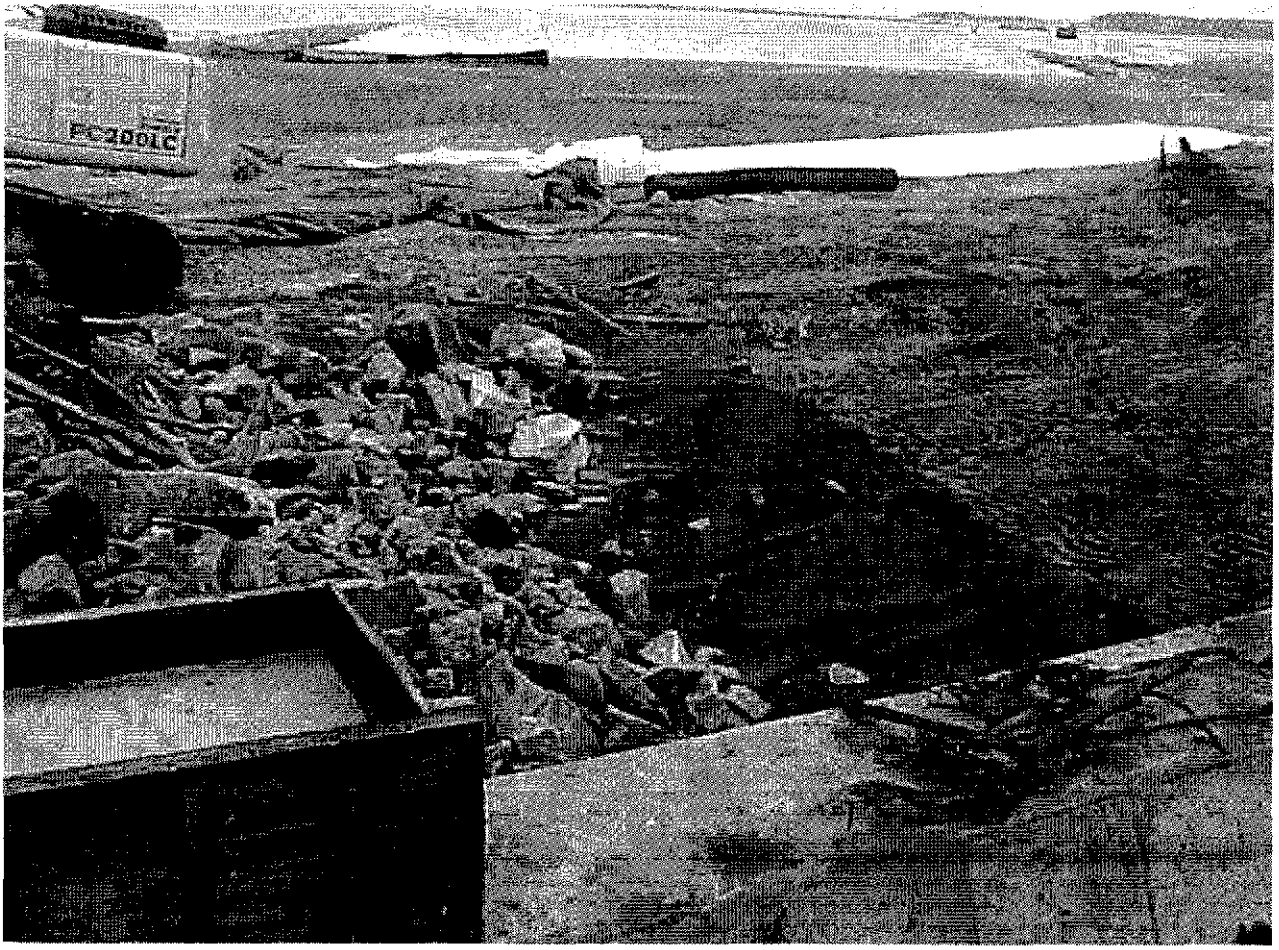
Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 22, 2001

K:\1-0870-1\photos\weirphotos\10-22-01 weir\photo 11. wpd



Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 22, 2001

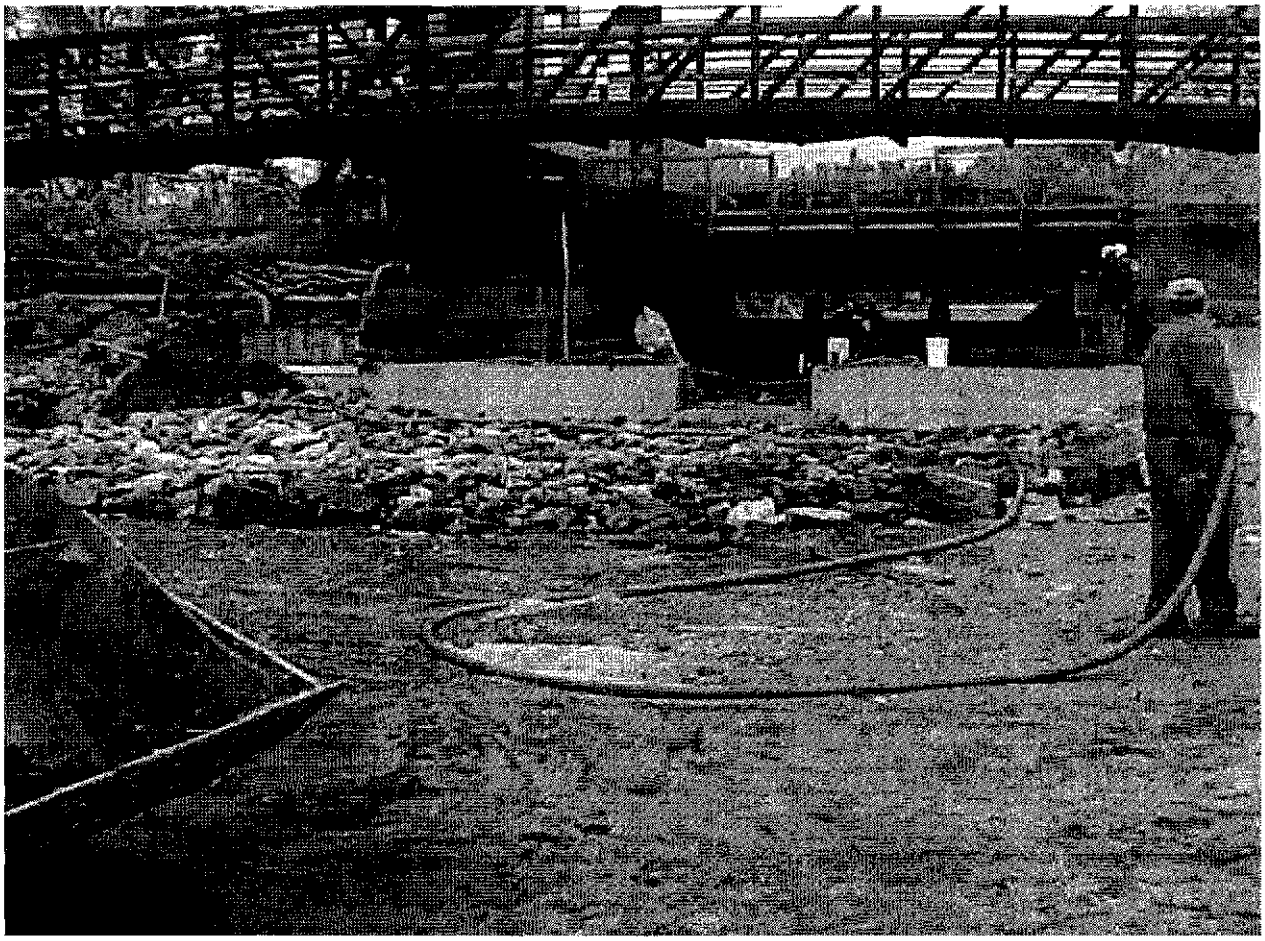
K:\1-0870-1\photos\weirphotos\10-22-01 weir\photo 14.wpd



Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 23, 2001
K:\1-0870-1\photos\weirphotos\10-23-01 weir\photo 3.wpd

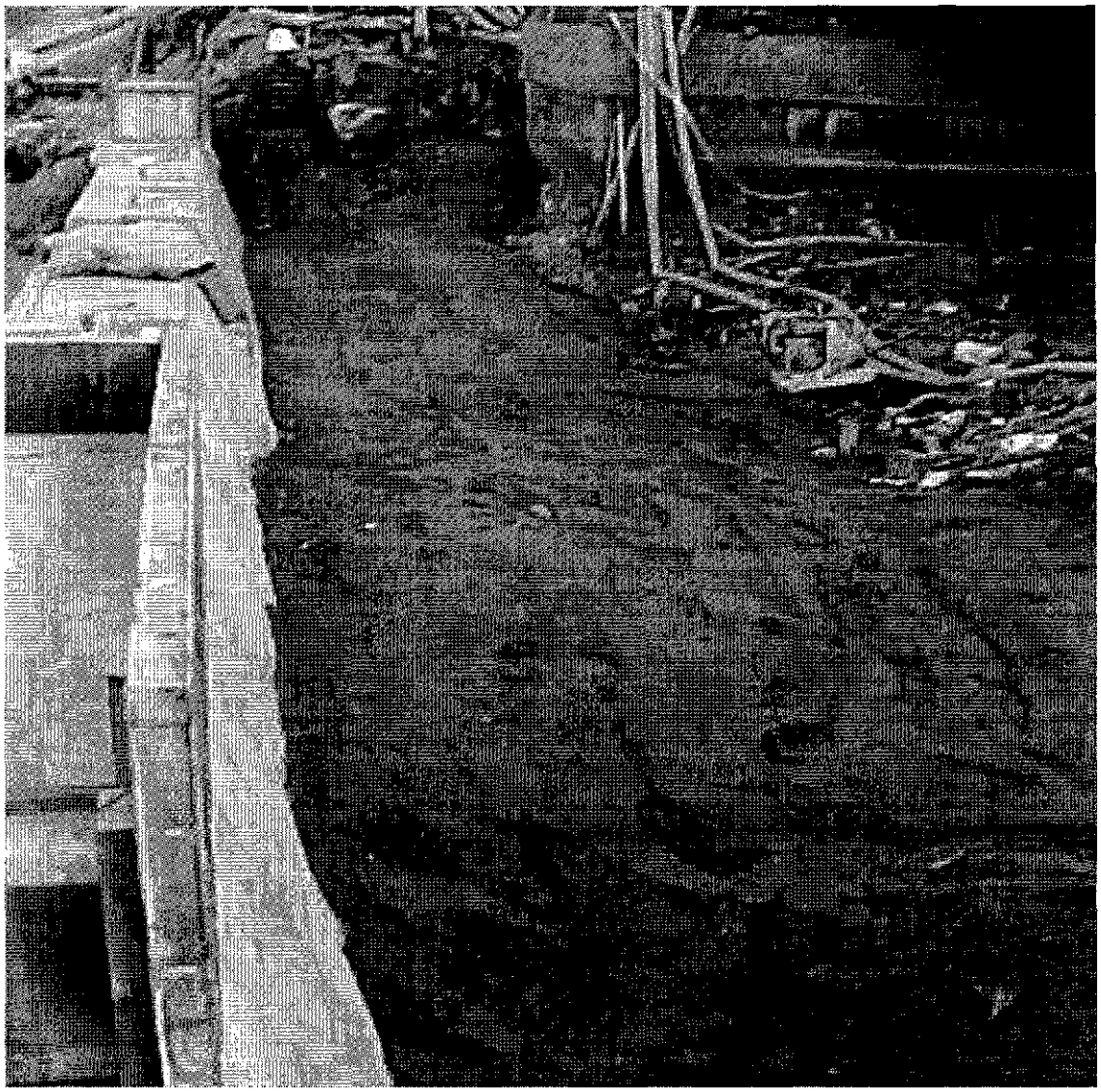
Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 23, 2001

K:\1-0870-1\photos\weirphotos\10-23-01 weir\photo 9.wpd



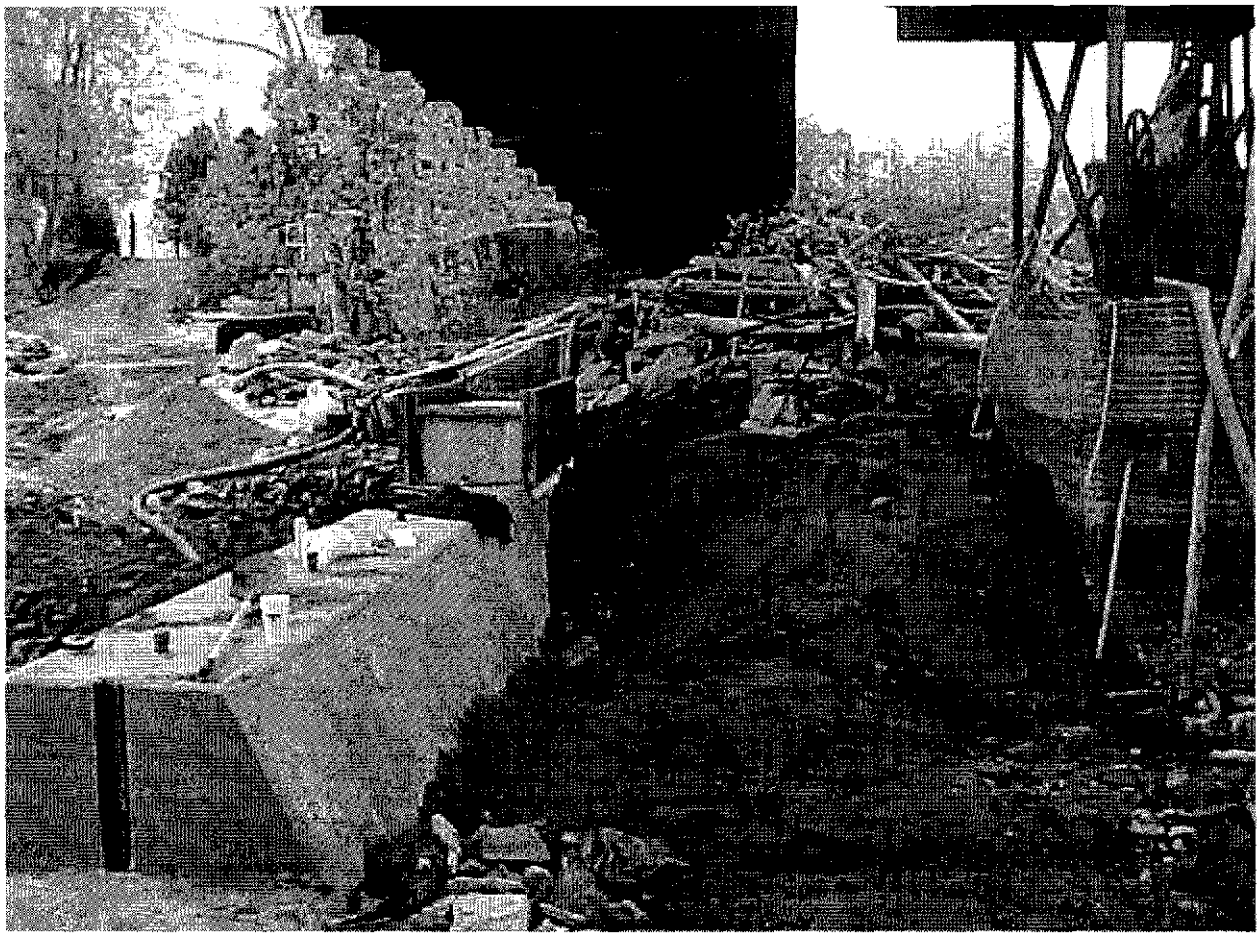
Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 23, 2001

K:\1-0870-1\photos\weirphotos\10-23-01 weir\photo 10.wpd



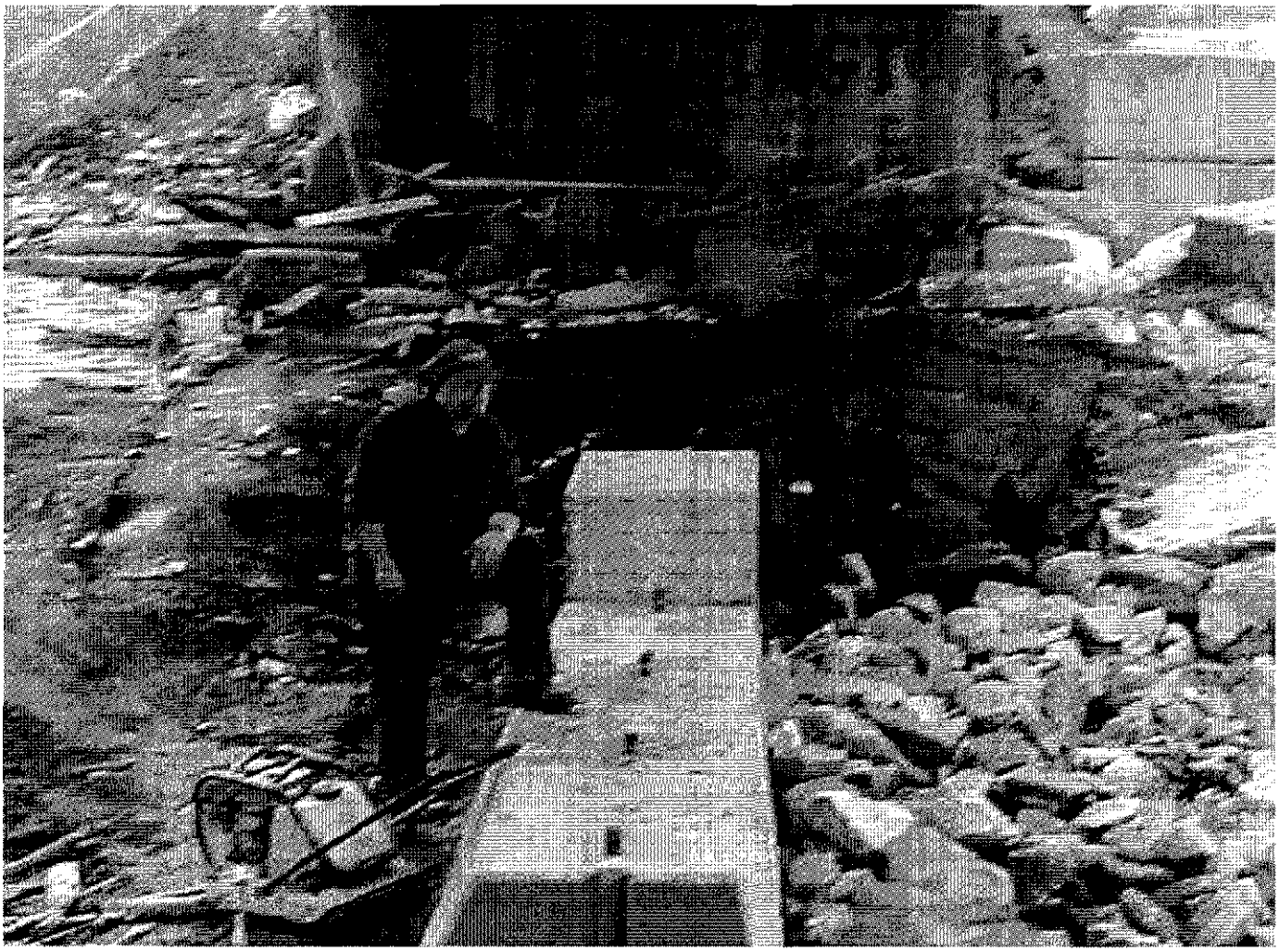
Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 23, 2001

K:\1-0870-1\photos\weirphotos\10-23-01 weir\photo 1.wpd



Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 23, 2001

K:\1-0870-1\photos\weirphotos\10-23-01 weir\photo 2.wpd



Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 24, 2001

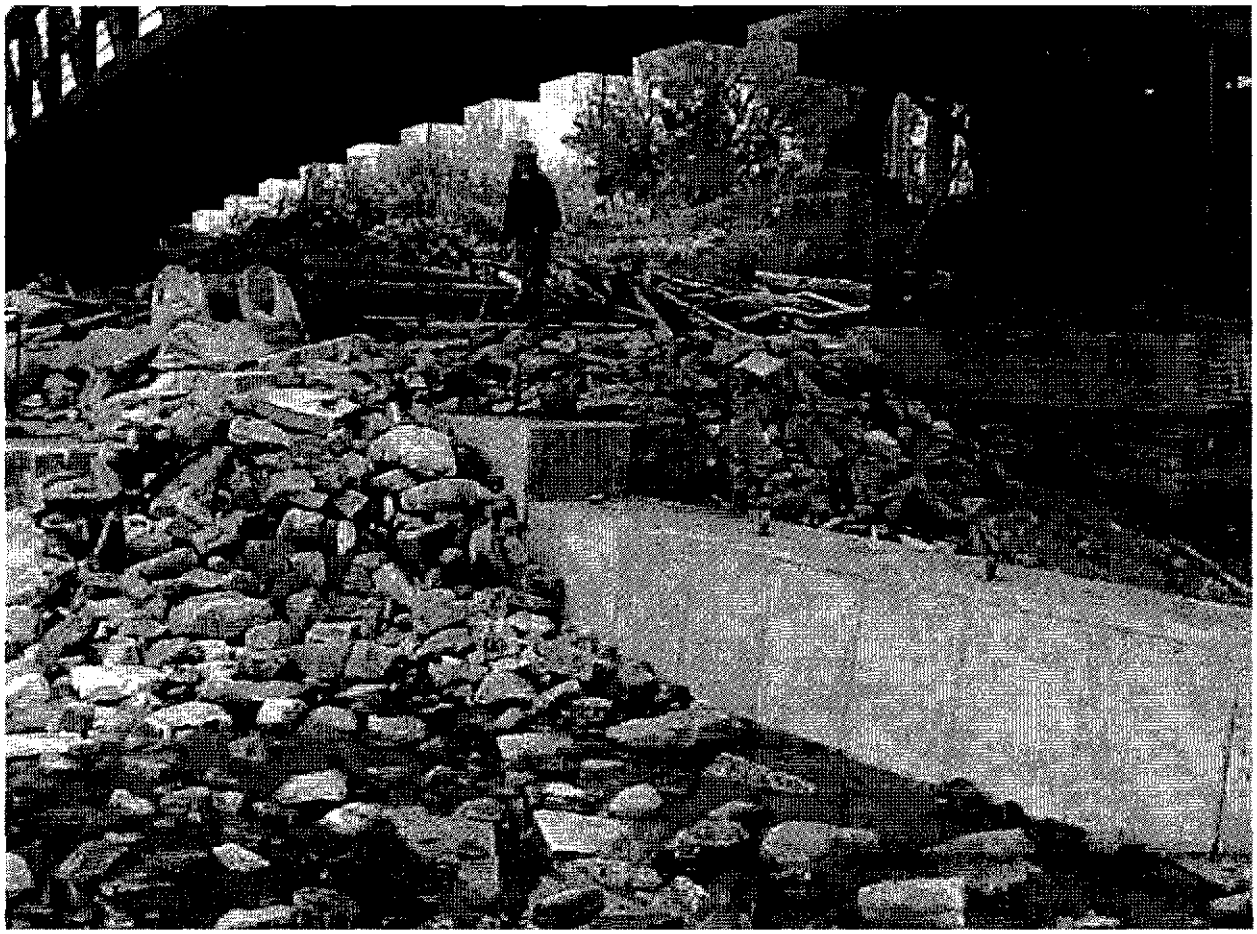
K:\1-0870-1\photos\weirphotos\10-24-01 weir\photo 3.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 24, 2001

K:\1-0870-1\photos\weirphotos\10-24-01 weir\photo 5.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 24, 2001
K:\1-0870-1\photos\weirphotos\10-24-01 weir\photo 9.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 24, 2001
K:\1-0870-1\photos\weirphotos\10-24-01 weir\photo 6.wpd



Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 24, 2001

K:\1-0870-1\photos\weirphotos\10-24-01 weir\photo 10.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 24, 2001

K:\1-0870-1\photos\weirphotos\10-24-01 weir\photo 8.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 23, 2001

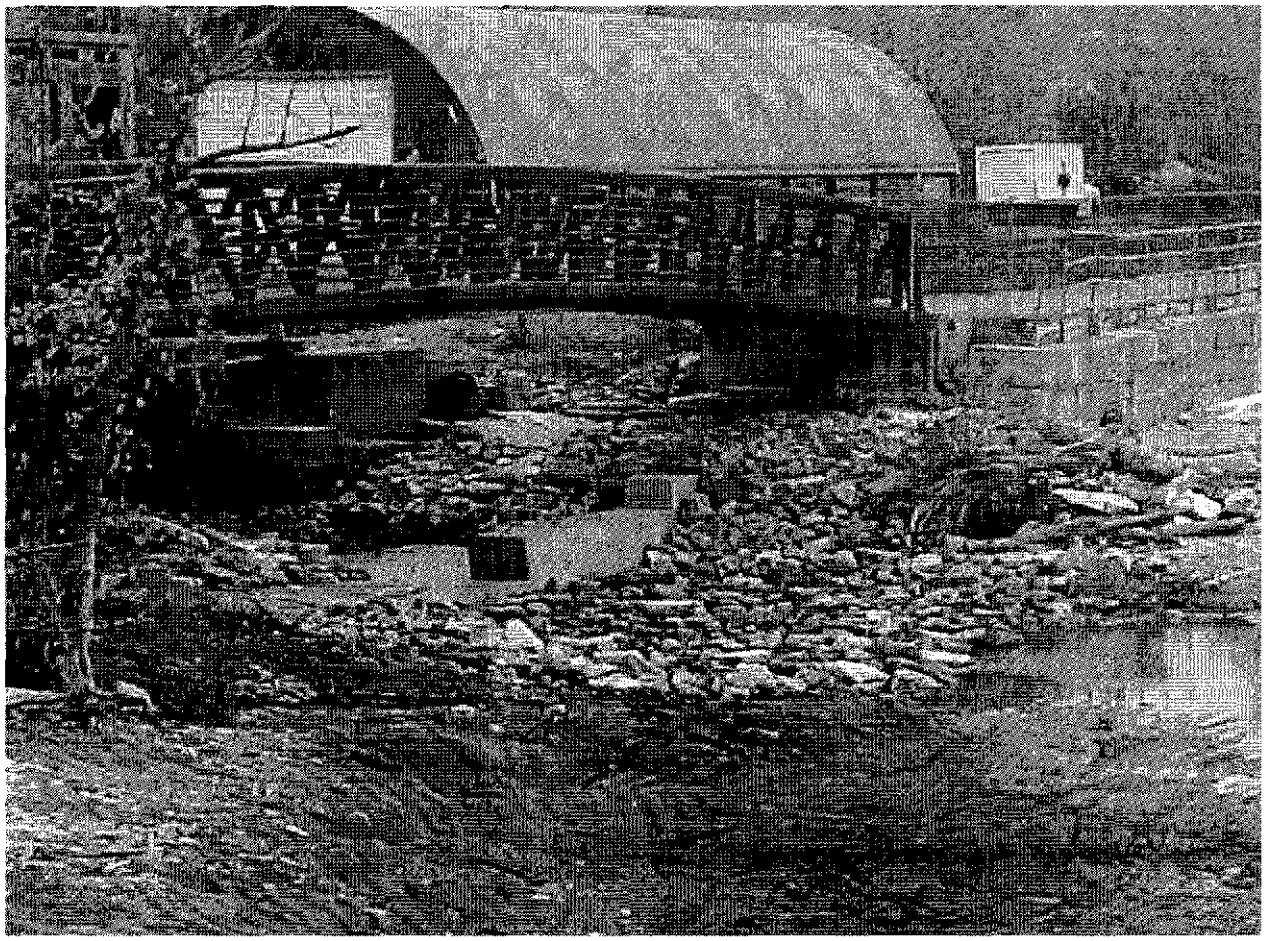
K:\1-0870-1\photos\weirphotos\10-23-01 weir\photo 17.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 24, 2001

K:\1-0870-1\photos\weirphotos\10-24-01 weir\photo 11.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 24, 2001

K:\1-0870-1\photos\weirphotos\10-24-01 weir\photo 12.wpd



Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 25, 2001

K:\1-0870-1\photos\weirphotos\10-25-01A\photo 2.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 25, 2001

K:\1-0870-1\photos\weirphotos\10-25-01A\photo 3.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 25, 2001

K:\1-0870-1\photos\weirphotos\10-25-01A\photo 6.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 25, 2001

K:\1-0870-1\photos\weirphotos\10-25-01A\photo 18.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 25, 2001

K:\1-0870-1\photos\weirphotos\10-25-01A\photo 19.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 25, 2001

K:\1-0870-1\photos\weirphotos\10-25-01A\photo 17.wpd

Pine Street Canal Site, Burlington, Vermont
Phase 1A Remedial Action - Weir Construction
October 25, 2001

K:\1-0870-1\photos\weirphotos\10-25-01A\photo 15.wpd